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ABSTRACT

The experience-based career education program was intended to have students participate in a variety of individualized activities designed to provide meaningful learning experiences in basic skills, life skills, and career development. Approximately 50 high school juniors and seniors participated in the project on a full-day basis, dividing their time equally between a learning center and various employer and community sites. Students showed a statistically significant gain in reading, mathematics, and study skills, but no significant gain in language mechanics. Against a psychosocial maturity scale, students showed a positive gain in the areas of self-reliance, work, communication, and trust. The test for measuring career maturity was found to be faulty. The report is an extensive summative evaluation of student achievements in terms of the project's goals, and a formative evaluation of the program based on a survey of participating instructional staff, students, parents, and employers. Half of the report is devoted to appendixes which discuss the evaluation instruments, and reproduce relevant correspondence, forms, questionnaires, statistical tabulations, and two student case studies. (PR)

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EXPERIENCE-BASED CAREER EDUCATION

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FY '74
FINAL EVALUATION REPORT
SEPTEMBER 1974

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FINAL EVALUATION REPORT

of the NWREL

EXPERIENCE-BASED CAREER EDUCATION PROGRAM

Submitted to the

National Institute of Education
of the
Department of Health, Education and Welfare

September 1974

Northwest Regional Educational Laboratory
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TABLE OF CONTENTS

		Page
List of Tables and Figures		vii
List of Appendices		x
I.	Introduction	
	Purposes of This Report	1
	Contents of This Report	1
	Overview of Summative Evaluation Design	2
	Internal Comparisons	
	External Comparisons	
	Changes Made in the Initial Design	
	Description of $(CE)_2$	5
	Summary of Evaluation Activities	5
	FY 73 Summer Tasks	
	Evaluation Instruments Developed	
	Testing and Follow-Up Activities	
	Use of an Independent Educational Auditor	
	Adversary Hearings	
	Replication Assistance	
II.	Student Populations	
	Comparison Groups	9
	Occupational Skills Center Comparison Group	
	Tigard High School Cooperative Work Experience Group	
	Tigard High School Random Samples	
	Original Volunteer (or "True Control") Group	
	$(CE)_2$ Experimental Group	
	Rationale for the Comparison Group Testing Design	11
	Baseline Comparisons of Student Groups	11
	Student Background Data	
	Comprehensive Test of Basic Skills Data	
	CMI and PSM Data	
	Student Attendance	
	Summary	
III.	Summative Evaluation Findings	
	Introduction	17

Page

Program Goal Outcome Findings

Basic Skills Outcome Goals: General 17

Have students participating in the $(CE)_2$ program increased their general abilities in the Basic Skills area at least as much as a comparison group of students enrolled in the regular school program at Tigard High School (as measured by the Comprehensive Test of Basic Skills)? 17

Basic Skills Outcome Goals: Reading

Have $(CE)_2$ students increased their ability to read a wide variety of materials with comprehension? Do students have an increased interest in reading? 18

Basic Skills Outcome Goals: Mathematics

Have $(CE)_2$ students increased their ability in mathematics this year? 19

Basic Skills Outcome Goals: Writing

Have $(CE)_2$ students demonstrated an increase in their ability to use writing to express ideas and feelings in a clear and correct manner? Have they improved their writing in terms of organization, logical development, clarity, sentence structure, grammar, legibility and technical quality? 20

Basic Skills Outcome Goals: Oral Communications

Have $(CE)_2$ students demonstrated an increased ability to communicate verbally in an effective and comfortable manner with employers and other adults with whom they associate? 20

Life Skills Outcome Goals: Critical Thinking

Did students increase their ability to gather, analyze and interpret information and to seek solutions to their problems? 23

Life Skills Outcome Goals: Science

Have students increased their ability to recognize and apply scientific procedures and methods in daily life? Can students analyze the impact of technology on both the environment and man's cultural values? 24

Page

Life Skills Outcome Goals: Creative Development

Have students increased their participation in the creative process of blending new and/or existing materials, ideas or concepts into unique forms and experiences? Can they identify the effects and desirability of these creative experiences? 25

Life Skills Outcome Goals: Functional Citizenship

Have students increased their ability to understand democratic processes in the local, state and federal governments and in the private sector? Do they apply those processes in their personal actions as well as in their relationships to private and public institutions? 27

Life Skills Outcome Goals: Personal-Social Development

Have students increased their ability to determine "Who they are," "What they are," and "Where they are going?" Do they accept the responsibility for the effect that their behaviors and attitudes have on themselves and on other people? 28

Life Skills Outcome Goals: Competencies

Have students demonstrated survival skills that cover the economic, planning, legal-political, safety-health, property maintenance, recreational and occupational aspects of living; i.e., can students perform behaviors considered by the community to be some of the minimal functional requirements for living in today's society? 29

Career Development Outcome Goals

Have $(CE)_2$ students increased their knowledge of their own aptitudes, interests and abilities and applied this understanding to their potential career interests? 32

Have $(CE)_2$ students increased their knowledge of social and economic issues and trends of the world of work? 34

Have $(CE)_2$ students developed the general skills of job finding, job application, on-the-job negotiation and daily work interactions? Have they developed entry level work skills when appropriate? 35

Page

Career Development Outcome Goals (continued)

Have $(CE)_2$ students analyzed potential careers for financial and psychological inducements, training needs and resources? 35

Findings From Common Instruments

Student Opinion Survey 36
Parent Opinion Survey 40
Parent Rating of $(CE)_2$
Impact of $(CE)_2$ on Students
Interaction Between Parents and $(CE)_2$
Parental Description of Students
General Findings of the Parent Opinion Survey
Employer Opinion Survey 42
Visitor Questionnaire 44
Project Director Questionnaire 45
Comparison of Student Learning Outcomes by Students, Parents, Staff and Employers 46

Findings From Unique Instruments

Comprehensive Test of Basic Skills 48
Newspaper Reading Exercise 49
Writing Sample 49
Semantic Differential 51
Psychosocial Maturity Scale 52
Career Maturity Inventory 57
Attendance Data 58
$(CE)_2$ Staff Questionnaire 59
Student Staffing 59
Purposes and Procedures
Reliability of Observations
Analysis of Staffing Records
Student End of Year Questionnaire 63

Case Study Summary

Purpose 64
Selection Criteria 64
Procedure 64
Content 65

IV. Formative Evaluation

Introduction 67
Management
1. What is the nature of the decisions made by the $(CE)_2$ Board over the 1973-74 school year? 68

Page

Formative Evaluation (continued)

2. How effective were recruitment procedures for the 1974-75 school year? 69
3. How many and what kinds of contacts have occurred between $(CE)_2$ and other educational institutions? 71

Employer Involvement

4. How satisfied were students with the various employer sites? 72
5. Is information fed back to, and is it useful to, employers? 72
6. How many active employer sites from FY 73 remained as active sites in FY 74 and how many new sites were added? 73
7. How many occupational areas were represented by participating employers in FY 74? 74
8. How valuable were the learning experiences at the various sites? 75
9. How many exploration, learning and skill building experiences have students been involved in at the various employer sites? 75

Community Relations/Staffing

10. How many general information presentations have been made by $(CE)_2$ staff and to what kinds of audiences? 76
11. How do $(CE)_2$ staff utilize their time? 77

Instructional System

12. Is the Student Accountability System functioning effectively in terms of utilization, follow through and results? 78
13. Is the student record system sufficiently comprehensive and useful to the staff? 83
14. Are students able to identify and secure resources and materials for supporting their learning plans? Where are they getting them? 83
15. How much involvement do students have in setting goals for their own learning and for selecting content and designing activities to achieve these goals? 83
16. What is the procedure for giving students systematic feedback on their progress? Is it effective? 84
17. What is the procedure for establishing baseline diagnostic information about students' ability levels, needs, etc? 85
18. How is baseline diagnostic data used in designing learning plans? 86
19. How many employer seminars were held? 86
20. How much time is spent by employer/community instructors working with students? 87
21. How many projects were generated for $(CE)_2$ students? How many were completed? How many were dropped? 89
22. How many competencies were completed by students in the program? 90
23. How useful do students and staff perceive each of the learning strategies to be? 90

Page

Formative Evaluation (continued)

24. What is the quality of student projects and resulting products? 92
25. What is the distribution of time students spend at various activities? 93

Guidance

26. What system is the $(CE)_2$ staff using to monitor and record affective growth? How effective is the system? 94

Employer/Community Utilization

27. How many training/orientation sessions for employers have been held? Who came? How effective did employers feel these sessions were? 94
28. Is the Learning Site Analysis Form effective in identifying applied Basic Skills needed at employer sites? 95
29. To what extent do employers inform the center when students need help in Basic Skills? 95
30. To what extent were students able to explore the career choices they indicated at the beginning of the year? 96
31. What effect, if any, is the evaluation having on changing operations of the project? 96
32. How effective is the "decision form" in highlighting information to enter into the documentation? 98
33. How effective are the evaluation instruments being used this year? 98
34. What influence has $(CE)_2$ had on the Tigard School District? 100

V. Summary and Recommendations

Introduction 101
Summary of Findings 101
Recommendations 107

List of Tables

		Page
1.	Group Means and Standard Deviations on the CTBS Pretest Subscores for $(CE)_2$ and THS_2 Students	13
2.	Distribution of Grade Equivalent Scores for $(CE)_2$ and THS_2 Students on the CTBS Pretest Total Scores	14
3.	Pretest Means for Scales of the CMI and PSM for Students in $(CE)_2$ and Three Comparison Groups	15
4.	Average Number of Days School Absence for the 1972-73 School Year for THS, CWE and $(CE)_2$ Students	16
5.	Effectiveness of Accomplishment Ranking for Program Outcomes	22
6.	Summary of Student Change in Responsibility, Cooperation, Interactions and Enthusiasm as Rated by the $(CE)_2$ Student Coordinator	29
7.	Number of Competencies Certified for $(CE)_2$ Students by Month	31
8.	A Summary of Ratings on Fifteen Student Learnings by Students, Parents, Staff and Employers	47
9.	CTBS Results	48
10.	$(CE)_2$ CTBS Pretest--Posttest Differences	48
11.	Pretest and Posttest Means and Standard Deviations of $(CE)_2$ Students on the Writing Sample	50
12.	Pretest and Midyear Means and Standard Deviations for the Psychosocial Maturity Scale for $(CE)_2$ and the Comparison Groups	53
13.	Pretest and Posttest Means and Standard Deviations for the Psychosocial Maturity Scale for $(CE)_2$ and the Comparison Groups	54
14.	$(CE)_2$ Pretest--Posttest Results on the PSM Summary Scales	56

		Page
15.	Pretest and Midyear Means and Standard Deviations on the Career Maturity Inventory Subscales for $(CE)_2$ and the Comparison Groups	57
16.	Pretest and Posttest Means and Standard Deviations on the Career Maturity Inventory Attitude Scale for $(CE)_2$ and the Comparison Groups	58
17.	Content Analysis of $(CE)_2$ Board Minutes for August 1973 Through May 1974	68
18.	Content Analysis of $(CE)_2$ Board Minutes by Types of Policy Decisions Made	69
19.	Summary of Transcript Data on 1973-74 and 1974-75 $(CE)_2$ Applicants and 1974-75 Tigard High School Random Sample	70
20.	Reasons Why Some Employers Decline Further Participation in $(CE)_2$	73
21.	Participating $(CE)_2$ Employer Sites Classified by the Standard Industrial Classification System	74
22.	Number of $(CE)_2$ Exploration and Learning Placements by Occupational Outlook Handbook Classifications	75
23.	Formal Information Presentations Made by the $(CE)_2$ Staff	76
24.	Summary of the Percent of $(CE)_2$ Staff Time Devoted to Various Types of Activities	77
25.	Employer Instructor Ratings of Students Completing Learning Level Experiences	79
26.	Summary of Accountability Actions Taken with $(CE)_2$ Students	82
27.	$(CE)_2$ Student Ratings of Employer Seminar Sessions	87
28.	Number of Hours Spent by Employer Per Student Per Month	88
29.	Projects Generated Monthly in Each Life Skills Area	89
30.	Projects Completed Monthly in Each Life Skills Area	89
31.	Projects Dropped or Not Completed in Each Life Skills Area	90
32.	Student Ratings of Learning Strategies	91
33.	Staff Ratings of Learning Strategies	92

List of Figures

		Page
Figure 1	Graphic display of mean expanded standard scores for $(CE)_2$ and THS_2 students on the CTBS pretest subscores.	13
Figure 2	Pretest, midyear and posttest means of the $(CE)_2$ students on the Semantic Differential scales.	51
Figure 3	$(CE)_2$ midyear and posttest mean score changes on the PSM.	55
Figure 4	Frequency distribution of the number of projects completed in 1973-74.	80
Figure 5	Frequency distribution of the number of competencies completed in 1973-74.	82
Figure 6	Percent of student time spent at various activities.	93

List of Appendices

		Page
Appendix A	Description of Instruments	A-1
Appendix B	Procedural Audit Report	B-1
Appendix C	$(CE)_2$ Student Opinion Survey Responses	C-1
Appendix D	Parent Opinion Survey	D-1
Appendix E	$(CE)_2$ Employer Opinion Survey	E-1
Appendix F	Project Director Questionnaire	F-1
Appendix G	Student Background Data	G-1
Appendix H	$(CE)_2$ Staff Questionnaire	H-1
Appendix I	Tabulations of February $(CE)_2$ Student Interviews	I-1
Appendix J	Tabulation of $(CE)_2$ Graduate Interviews and Questionnaires	J-1
Appendix K	Tabulation of Student End of Year Questionnaire	K
Appendix L	Tabulation of Nonvolunteer Student Questionnaire	L-1
Appendix M	List of Skills and Experiences Gained by $(CE)_2$ Students on Learning Level Sites Classified by OOH Classification	M-1
Appendix N	Complete Case Study Report	N-1
Appendix O	Descriptions of $(CE)_2$ and Comparison Groups	O-1
Appendix P	Interpretation of Evaluation Findings by $(CE)_2$ Staff	P-1
Appendix Q	$(CE)_2$ Handbook Descriptions	Q-1

I. INTRODUCTION

Purposes of This Report

This FY 74 final evaluation report has been prepared in compliance with reporting requirements of the Career Education Program staff of the National Institute of Education (NIE). As a year-end report it may also serve two additional audiences. First, the $(CE)_2$* operations staff may find portions of this report helpful in improving project operations and for sharing program results with the many visitors they receive at the $(CE)_2$ site. And second, the summary and recommendations from this report may be of interest to a general audience of local educators, Tigard School Board members, the $(CE)_2$ Board of Directors, community members, interested visitors and potential adopters of this program.

Contents of This Report**

Section I--"Introduction"--contains a statement of the purposes and audiences for this report, an explanation of the report contents, an overview of the formative and of the summative*** evaluation design, a brief description of $(CE)_2$ and a summary of FY 74 evaluation activities. The various

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* $(CE)_2$ is the symbol used to represent Community Experiences for Career Education, Inc., the subcontractor holding operational and design responsibilities for the program under the auspices of Northwest Regional Educational Laboratory (NWREL).

** This report was prepared by NWREL EBCE project evaluation team members Tom Owens, Marshall Herron (who worked on a full-time basis until March 1974 and on a consultant basis thereafter) and Harry Fehrenbacher; it was typed by Kathy Petersen. Mike Hiscox, Susan Hiscox, Karl White and Bill Quinn assisted the team for short periods of time in test design and administration, data processing and analysis, and/or report writing. Maggie Burton and Nancy Anderson of the EBCE product development unit provided valuable assistance in the editing of this report. Special thanks is also given to the $(CE)_2$ project staff and to Joe Haenn, Dean Nafziger, Bob Silverman and Blaine Worthen of NWREL for their careful critique of the first draft of this report.

*** Formative evaluation examines how well the program is operating, identifies program strengths and weaknesses and provides information for improving the program. Summative evaluation involves an assessment of what students have gained from being in the program and how well the program has accomplished its objectives.

student populations and samples used in this evaluation are discussed in some detail in Section II--"Student Populations"--to form a foundation for the reader's understanding of comparative test results summarized in Section III--"Summative Evaluation Findings." Designs used in the formative evaluation of this program vary considerably depending upon the nature of the particular formative evaluation question being addressed. Consequently, the formative evaluation designs, procedures and results are organized in Section IV--"Formative Evaluation Findings"--around a series of formative evaluation questions. The major findings and recommendations of the evaluation unit are summarized in Section V--"Summary and Recommendations." Finally a set of appendices containing questionnaire tabulations and other support data is included to provide more detailed information for persons desiring such details. Of particular interest to some readers are the appendices describing the evaluation instruments used, containing the independent educational auditor's report of the NWREL evaluation, listing the actual skills gained by $(CE)_2$ students, illustrating in detail the experiences of two $(CE)_2$ students through the use of case studies and summarizing the separate interpretation of these evaluation findings by the $(CE)_2$ operations staff.

A detailed table of contents is provided to allow the reader to more quickly locate sections of special interest.

Cost data are not included as a part of this evaluation report but will be handled through a separate study being done by a subcontractor to the project. This comparative cost study is due to be completed by the end of 1974.

Overview of Summative Evaluation Design

The summative evaluation design was developed to assess effects of the $(CE)_2$ program upon its students. For each of the program's student learning outcome goals, evaluators and project staff described a rationale, a set of related primary and secondary learning processes and a set of progress indicators. The evaluators then determined how each outcome goal could best be demonstrated--either by using internal project criteria or by comparisons made with external groups. Specifics of those arrangements, along with the outcome goals, were displayed in an attachment to the FY 74 Operating Plan entitled "Consolidated Formative and Summative Evaluation Plan."*

* "Consolidated Formative and Summative Evaluation Plan," FY 74 Operating Plan for the Employer-Based Career Education Program, NWREL, Portland, Oregon: 1973.

Internal Comparisons. Many evaluative judgments about the Experience-Based Career Education (EBCE) program have been made without the use of external comparison groups. For example, the program's first year of experience provided data for establishing realistic second-year expectations. These second-year expectations included a criterion that students would complete on the average a greater number of competencies than were completed by students during the first developmental year. Similarly, to see if their attendance has improved, $(CE)_2$ students' records have been compared with high school records the year prior to their entry into the program. Other internal comparisons of student progress have been made through a systematic recording of student behaviors by staff members through weekly "student staffing" meetings and analysis of questionnaire responses in which students, staff, parents and employer instructors assess student outcomes and program operations. And, since the program is individualized, some evaluative judgments about a given program strategy have been made by examining the number of students electing to use that strategy.

External Comparisons. Use of external comparison groups provides an important additional dimension to the evaluation of program objectives. Several comparison groups have been used.* They include:

1. Three random samples of Tigard High School students (THS_1, THS_2, THS_3)

2. Students in the Diversified Occupations Cluster of the Tigard High School Cooperative Work Experience Program (CWE)

3. A random sample of students from the Owen Sabin Occupational Skills Center (OSC) located in the North Clackamas School District southeast of Portland

4. The "true control" group--those students at THS who originally volunteered for $(CE)_2$ but who were randomly selected not to participate.

For some program objectives it is appropriate to compare $(CE)_2$ and comparison group performance. However, the nature of the external comparison groups must be appropriate to the program evaluation to be made. For example, a comprehensive evaluation cannot be made solely on the basis of whether $(CE)_2$ students demonstrate greater gains in knowledge, skills and attitudes than "true control" group students. Evaluators must also examine how the growth in career knowledge and attitudes made by $(CE)_2$ students compares with that of similar students who volunteer for specific school-based career education programs.

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* For a detailed description of the various groups, refer to Section II, "Student Populations."

Further, examination of baseline and growth data for a random sample of students from the same grade level of the school from which $(CE)_2$ students volunteer reveals how experimental and control groups are similar or different from the total student population. This information is essential for determining the $(CE)_2$ program's breadth of appeal and for assessing the perceptions created by the program's recruiting process.

Growth data from the random sample group also indicate gains being made by a cross section of students from Tigard High School. Since the make-up of the groups is likely to be different (as was demonstrated in the "FY 74 First Quarterly Evaluation Summary"*), it may be inappropriate to compare such information with growth data for the experimental group. However, data on the THS random sample groups give a potential adopter of EBCE a base for comparing his or her local schools with those from which the experimental group students come.

Similarly, in cases where no growth data are available from publishers for evaluation instruments--as is the case with the Career Maturity Inventory and the Psychosocial Maturity Scale--growth data on students in one or more relevant comparison groups are essential. Use of multiple comparison groups will provide evidence as to whether the two instruments are sensitive enough to register change over an eight month period for any of the groups.

In summary, questions related to external comparisons go further than simply comparing the EBCE results with those of a "true control" group made up of program volunteers who were randomly assigned not to participate in the program. Comparisons with other career education programs and with a random sample of students from regular high school(s) also provide important data.

Changes Made in the Initial Design. Dr. Kenneth Hopkins, Director of the Laboratory of Educational Research at the University of Colorado, reviewed the summative evaluation design in October 1973. He pointed out several shortcomings in the comparative testing plan which led NWREL evaluators to decide that a posttesting of THS random sample juniors in May was essential to obtain a valid measure of student growth in Basic Skills.

With respect to the affective and career awareness outcome measures, experience at another EBCE site last year indicated that attitude changes may occur early in the year, then level off or even regress slightly toward the end of the year. This potential for attitude changes combined with concern about student testing time convinced the evaluation staff to retest half of the experimental and comparison group students in February and half in May.

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* FY 74 First Quarterly Evaluation Summary of the NWREL Experience-Based Career Education Program, NWREL, Portland, Oregon: 1973.

The use of the "true control" group had to be abandoned since the number of such Tigard High School students who volunteered for $(CE)_2$ in the spring of 1972 but were randomly selected not to participate in FY 73 had dropped to three by February 1974. (See Section II, "Student Populations.") No FY 74 control group (spring 1973 volunteers) was available.

Description of $(CE)_2$

An evaluation report of an alternative program must presume the reader's familiarity with certain aspects of that program. However, some preliminary description of student activities is called for to help the reader understand the evaluation design and findings. During FY 74 $(CE)_2$ involved 50 juniors and seniors from Tigard High School on a full-day basis. Students spent approximately half of their time at a learning center located in a one-story professional office complex next to King City; the other half of their time was spent at various employer and community sites. The $(CE)_2$ program was in its second year of operation with funds provided by the National Institute of Education. A short description of $(CE)_2$ in terms of student graduation requirements follows.*

Upon meeting the following requirements, $(CE)_2$ students are granted a Tigard High School diploma.

1. Projects. Ten per program year, two in each Life Skills area. Each project includes Basic Skills activities.

2. Competencies. One-half of the competencies must be completed each program year.

3. Career Explorations. Minimum of five per program year.

4. Learning Level Placement. Two-thirds of the program year on successful learning level experience.

5. Waiver Clause. Any of the above requirements may be modified or waived upon the written recommendation of the project director and approval by the Board of Directors.

To remain in the $(CE)_2$ program, students were also expected to adhere to an accountability system encompassing general program expectations for their conduct.**

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* For a more complete description of the program, the reader is referred to a general information brochure called, "Community Experiences for Career Education," available free upon request from the Northwest Regional Educational Laboratory.

** For a discussion of this Student Accountability System, see Section IV, page 78.

Many other activities--including interacting with the Career Information System, working with a tutor and taking formal courses at Tigard High School--were among the options available to each student in the completion of his or her program work.

The prior description of activities cannot adequately represent the scope of the $(CE)_2$ program. It is hoped, however, that it will define $(CE)_2$ sufficiently to make this report meaningful. A comprehensive description of all $(CE)_2$ program components will be prepared later this year.*

A brief comparative description of the purposes, curricula, learning resources and student selection procedures for $(CE)_2$ and the two comparison groups (the Diversified Occupations section of the Cooperative Work Experience Program at Tigard High School and the Owen Sabin Occupational Skills Center in Milwaukie, Oregon) is contained in Appendix O for the reader desiring a further understanding of the comparison groups.

Summary of Evaluation Activities

FY 73 Summer Tasks. In preparation for the second operational year, evaluation staff worked during the summer of 1973 with project management and $(CE)_2$ operations personnel to specify project objectives, clarify strategies for moving students toward their learning goals and develop evaluation procedures for assessing their progress. At the same time, NWREL evaluators and $(CE)_2$ staff drafted and prioritized formative evaluation questions and established a system whereby new questions could be added during the year whenever appropriate. Considerable time was also spent identifying important student groups against which $(CE)_2$ student growth could be compared.

Evaluation Instruments Developed. A number of instruments were developed for use this year in evaluating the $(CE)_2$ program. Some (student, parent, employer and visitor questionnaires) were designed in cooperation with the other three regional educational laboratories engaged in EBCE projects. Others (student application record, semantic differential, oral communication measure and objective-referenced newspaper reading exercise) were developed locally. Evaluators also worked with $(CE)_2$ staff and an outside consultant to institute "student staffing," a process whereby staff members, on a weekly basis, systematically discuss student behaviors, recommend staff interventions and record resultant student affective growth.

Three instruments developed and tested by researchers outside the EBCE program were also utilized: the Career Maturity Inventory (CMI), the

* A list of "handbook" titles and a brief description of their contents is contained in Appendix Q.

Psychosocial Maturity Scale (PSM), and the Comprehensive Test of Basic Skills (CTBS). Data and information concerning the PSM were exchanged with the instrument's developers, Dr. Ellen Greenberger and her associates at Johns Hopkins University. The use and validity of the CMI for EBCE program evaluation was studied jointly by NWREL and the other three laboratories involved with EBCE.

Testing and Follow-Up Activities. Evaluation staff planned and administered pre-, midyear and posttests to $(CE)_2$ and comparison group students from Tigard High School and the Occupational Skills Center in Milwaukie. In the latter case, use of a special research design provided OSC with meaningful information on students in each of its ten cluster groups while also providing the EBCE evaluators with important comparison group information. Following analysis of the pretests, feedback sessions were held with staff and administrators of experimental and comparison group schools so that they could use the results. THS comparison group students were given individual interpretations of their pre- and posttest data, with emphasis on results from the CTBS battery.

Use of an Independent Educational Auditor. A work agreement to pilot test the use of an independent educational auditor was developed in cooperation with Ms. Mary Ann Millsap, NIE evaluation coordinator for EBCE projects. Arrangements were made for Ms. Millsap to select an auditor who would independently assess for NIE the techniques and results of the NWREL EBCE evaluation. This auditor has certified the accuracy of midyear and end-of-year testing, scoring, data processing and reporting and will offer an independent judgment regarding the interpretations of data that appear in this report. It is expected that the independent judgment of a competent auditor from outside the project will strengthen the credibility of the EBCE project evaluation unit's findings. (See Appendix B for a copy of the Procedural Audit Report.)

Adversary Hearings. As part of the replication effort, NWREL hopes to provide potential adopters with balanced factual data regarding the program by using a concept newly adopted in the field of education--the adversary hearing. An adversary hearing is simply the legal term applied to common trial proceedings in which two sides holding opposite viewpoints argue for and against a given proposition, in this case, "Should the EBCE program be adopted?" An actual adversary hearing was planned, conducted and the proceedings videotaped in July. Potential adopters will view the videotape and use the information presented as input in making a decision on whether or not to continue planning for the possible adoption of EBCE in their local communities. The July one-hour videotape is considered a pilot version and a more intense hearing is tentatively scheduled to be videotaped in the winter, making use of the experience gained from the pilot tape. In short, it is anticipated that the adversary hearing process will serve as an alternative evaluation model that places importance upon carefully solicited

human testimony, the presentation of opposing viewpoints and the critical cross examination of witnesses and other evidence presented. Such an approach should serve as a useful balance to the traditional evaluation made of data collection and reporting.

Replication Assistance. Members of the evaluation unit have participated actively this year in the planning and implementing of several conferences for potential adopters of EBCE. Feedback questionnaires have been developed and analyzed for such conferences as well as for slide and tape presentations made by the EBCE replication unit at various school districts in the Pacific Northwest.

II. STUDENT POPULATIONS

Described in Section II are the various student populations sampled in the evaluation activities and comparative baseline data collected from these samples.

The FY 74 evaluation design called for the administration of evaluation instruments to students in five critical comparison groups and the $(CE)_2$ experimental group. Four of the comparison groups are composed of students from Tigard High School, the "home base" of students in the $(CE)_2$ program; the fifth group is composed of students from the Occupational Skills Center program of the North Clackamas School District.

Comparison Groups

Occupational Skills Center Comparison Group. North Clackamas School District, a neighboring district to Tigard School District, is located in the southeast suburbs of Portland. Somewhat larger than the Tigard School District, it contains three high schools, four junior high schools and nineteen elementary schools. The district serves a total of approximately 14,500 students as compared to about 5,000 students in Tigard schools. Six years ago North Clackamas School District created a new institution called the Occupational Skills Center. The programs at OSC were organized into ten occupational "clusters" (construction, marketing, industrial mechanics, etc.). Students from the district's three high schools electing to attend OSC spend one-half day at their "base" high school and one-half day at OSC.*

The OSC program was considered by evaluators as a useful source of students for a comparison group since (1) the large number of students at OSC (about 800) makes the use of random selection procedures appropriate; (2) the program is career oriented; and (3) the OSC program is new enough that program administrators were interested in cooperating with NWREL evaluators in exchange for evaluation feedback data on their own program.

Using a table of random numbers, evaluators chose five juniors and five seniors from each of the ten occupational clusters. All 100 students were pretested in the fall. Using the same stratified random sample roughly half were tested again at midyear and the remaining students in May.

Tigard High School Cooperative Work Experience Group. The THS Cooperative Work Experience program draws its students from the same

* For a further description of the students and curriculum involved in the various comparison groups, the reader is referred to Appendix O.

"pool" as $(CE)_2$. The 25 students referred to in this report as the Cooperative Work Experience group are limited to those from a Diversified Occupations Cluster within the CWE program. This cluster most closely matched the variety of occupational interests of $(CE)_2$ students. Other clusters within CWE such as business and office management were not a part of our comparative testing. Data from the demographic questionnaire and judgments of THS teachers and counselors indicate that students from this CWE Diversified Occupations Cluster group are more like students who volunteered for $(CE)_2$ than those from any other comparison group. In fact, several of the original volunteers to $(CE)_2$ have been or are presently enrolled in this program.

Tigard High School Random Samples. Three random samples of Tigard High School students enrolled in the regular program were drawn for testing this year. These students provided baseline data representing students who received no formal career-related instruction. The first random sample of 40 juniors and 40 seniors (THS_1) provided comparison data on the Career Maturity Inventory and the Psychosocial Maturity Scale. The second random sample of 40 juniors and 40 seniors (THS_2) provided comparison data on the Comprehensive Test of Basic Skills. One-half of the THS_1 group was retested at midyear and the other half in May. The THS_2 retest occurred only in May. A third group, THS_3, was drawn randomly at midyear to help compensate for attrition in the THS_2 group and to allow the evaluators to check the test-retest effects of the affective instruments used. The THS_3 group was administered the CMI and the PSM for the first time in February and was retested in May.

Original Volunteer (or "True Control") Group. At the time of original recruitment efforts in spring 1972, roughly 100 students indicated an interest in the $(CE)_2$ program. Half of these students, chosen by taking every other name from an alphabetized list, were invited to undergo further selection procedures such as interviews, meetings with parents and staff, etc. By this quasi-random procedure, half were eliminated from consideration as potential $(CE)_2$ participants. It is of particular interest to note what has happened to students in this group. Of the 47 students whose names were recorded, 19 were juniors when they volunteered. All of these 19 juniors graduated in the class of 1973. The control group students remaining this year appear less academically motivated than those who graduated last June. Five of these 28 students reapplied and were admitted to $(CE)_2$ this year. Of the remaining 23 students only 8 are still enrolled in Tigard High School. The majority either dropped out or were expelled from Tigard High School. Of the eight students still in Tigard High, three are in the Cooperative Work Experience program and were tested there. Two refused to take the tests, leaving only three "nontreatment" students available for comparisons. These three students took the CMI and PSM along with the Tigard High School random sample group. For all practical purposes, the small number of students makes comparisons unreliable and therefore no "true control" data are included in this report.

$(CE)_2$ Experimental Group. The $(CE)_2$ program started the school year with 50 students, 48 percent of whom were boys. Nineteen of the students were juniors newly recruited for this school year. Of the 31 students who were seniors, 21 were new to the program. Eleven students left the program between October 1, 1973 and January 31, 1974. (Their reasons for leaving the program are listed in the Project Director Questionnaire, Appendix F.) New students are added to the program as others leave, maintaining an approximate total of 50 students at any given time. Between February 1 and the end of the school year eight additional students left the program. One of these students had been in the program only since midyear.

Rationale for the Comparison Group Testing Design

A number of comparisons are made in this report between $(CE)_2$ students and those in various comparison groups described above. Decisions regarding which groups were to be compared on which instruments were based upon the nature of the students in each group, the need for midyear as well as end-of-year data and the limitations on available testing time for any one group. The number of applicants for $(CE)_2$ in the spring of 1973 was too low to allow for a random assignment of applicants to the experimental or control group. Because the CTBS battery required over three hours time per administration, it was decided to draw two random samples of students from THS. Group 1 took all of the comparative instruments except the CTBS as a pretest while Group 2 took only the CTBS. Group 2 was the only comparative group tested with the CTBS because the evaluators wished to examine the question of whether $(CE)_2$ students, by being in the program, lost ground in Basic Skills as compared with students remaining at THS. The need for "hard" evaluation data prior to the end of the school year caused the evaluation unit to rely heavily upon the use of midyear data. Because the evaluators felt the importance of having some data at both mid and end of year, they decided to randomly sample $(CE)_2$ and each comparison group and to administer some instruments to one-half of each group at midyear and other instruments to the second half of each group. Since the mid- and end-of-year periods were only three months apart, none of the students were tested at both times. Thus the half of each group tested on a few instruments in February received other instruments in May as a posttest. Since the CWE group involved only 25 students available for pretesting, an attempt was made to test all of them at midyear and thus ignore them at the end of the year except for a single questionnaire given to all groups in May.

Baseline Comparisons of Student Groups

Student Background Data. Parallel forms of a general information questionnaire were given to students in all comparison groups at the beginning of the school year. Information derived from questionnaire responses is condensed here

from the First Quarterly Evaluation Summary of the NWREL Experience-Based Career Education Program, submitted to NIE in December 1973.

Several points of interest can be seen in the demographic data. The $(CE)_2$ students are similar to those from the random sample of Tigard High School students with respect to previous employment history, number of community organizations in which they have participated, number of hobbies listed, number of books reported read last year and ethnic background. $(CE)_2$ students differ from the random sample of Tigard High School students in that the $(CE)_2$ students more often reported having had previous job awareness training, were more interested in attending a technical or trade school, less interested in attending college and had fathers with less formal education. In comparison with OSC and CWE students, $(CE)_2$ students more frequently listed boredom with school as a reason for entering their respective programs.*

A table summarizing the data from this questionnaire may be found in Appendix G accompanying this report.

Comprehensive Test of Basic Skills Data. Baseline comparison of $(CE)_2$ students with the THS_2 sample can also be made from Basic Skills assessment data. The pretest means and standard deviations of $(CE)_2$ and THS juniors and seniors on the CTBS are shown in Table 1. As can be seen, the THS sample scored substantially higher on all subtests. A series of t tests comparing intra-class means found the THS scores significantly higher than $(CE)_2$ scores in all comparisons except arithmetic for the junior group where the mean difference was not significant at the .05 level.

The same information contained in Table 1 is displayed in a visual way for the reader in Figure 1.

* A chi square for each of these variables was significant at the .01 level.

Table 1

GROUP MEANS AND STANDARD DEVIATIONS ON THE CTBS PRETEST SUBSCORES FOR $(CE)_2$ AND THS_2 STUDENTS

Group		Subscale			
		Reading	Language	Arithmetic	Study Skills
$(CE)_2$ Seniors (N = 28)	$\bar{X}$	585*	555	520	584
	S	77.9	87.0	71.5	96.7
$(CE)_2$ Juniors (N = 19)	$\bar{X}$	574	532	528	528
	S	79.9	70.4	73.1	104.5
Tigard Seniors (N = 20)	$\bar{X}$	652	624	641	669
	S	81.1	81.3	78.0	73.7
Tigard Juniors (N = 34)	$\bar{X}$	647	607	575	638
	S	82.2	89.2	88.2	81.5

* Scores shown are based upon expanded standard scores where the national mean for combined ninth and tenth grade students is 600 and the standard deviation is 100.

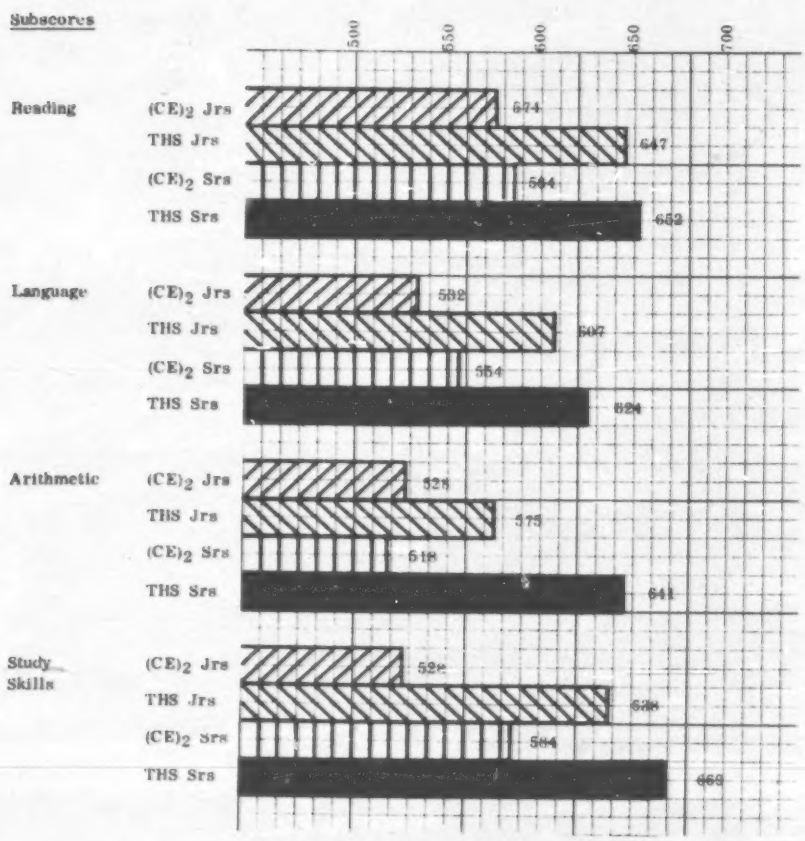

Fig. 1. Graphic display of mean expanded standard scores for $(CE)_2$ and THS_2 students on the CTBS pretest subscores.

Table 2 displays the number and percentage of students from $(CE)_2$ and THS_2 falling into various grade equivalency categories for the CTBS total test score. Twenty-two percent of $(CE)_2$ juniors and 20 percent of the $(CE)_2$ seniors scored below the seventh grade level while none of the THS juniors or seniors scored below the seventh grade. Although grade equivalent scores are not precise indicators of student performance, they are included to facilitate interpretation by the lay reader. No statistical analysis has been done based on grade equivalent scores.

Table 2

DISTRIBUTION OF GRADE EQUIVALENT SCORES FOR $(CE)_2$ AND THS_2 STUDENTS ON THE CTBS PRETEST TOTAL SCORES

Grade Equivalent	Group							
	$(CE)_2$ Juniors		Tigard Juniors		$(CE)_2$ Seniors		Tigard Seniors	
	N	%	N	%	N	%	N	%
13.0+	-	-	6	25.0	-	-	3	15.8
12.0 - 12.9	1	5.6	3	12.5	-	-	4	21.0
11.0 - 11.9	2	11.1	2	8.3	-	-	6	31.6
10.0 - 10.9	1	5.6	2	8.3	4	20.0	-	-
9.0 - 9.9	-	-	6	25.0	5	25.0	2	10.5
8.0 - 8.9	5	27.8	3	12.5	3	15.0	2	10.5
7.0 - 7.9	5	27.8	2	8.3	4	20.0	2	10.5
6.0 - 6.9	2	11.1	-	-	2	10.0	-	-
5.0 - 5.9	1	5.6	-	-	1	5.0	-	-
4.0 - 4.9	1	5.6	-	-	-	-	-	-
3.0 - 3.9	-	-	-	-	-	-	-	-
2.0 - 2.9	-	-	-	-	1	5.0	-	-
Class Mean Grade Equivalent	8.1		10.7		8.1		11.0	

Because the representativeness of the THS_2 senior random sample who completed the CTBS is questionable, caution should be exercised in comparing the THS senior CTBS results with those of the $(CE)_2$ seniors. However, the difference in the junior class scores would indicate that $(CE)_2$ students are not drawn from the same population (in regard to Basic Skills) as the

THS random sample. (These apparent deficiencies in Basic Skills should be taken into account when evaluating $(CE)_2$ student performance.)

CMI and PSM Data. Baseline data were also collected on the affective domain for $(CE)_2$ and comparison group students. As measured by the PSM and CMI (Table 3), $(CE)_2$ students scored significantly lower than both THS_1 and OSC on all substantive scales. The Social Desirability Scale is not considered a substantive part of the PSM. Students in $(CE)_2$ also scored lower than the CWE on three of the CMI competence tests. While this difference might be due to some self-selection factor that caused certain students to volunteer for $(CE)_2$, it might also be explained by poor reading skills which adversely affect the validity of these measurement instruments. The correlations between the SCAT verbal scores and CMI attitude and PSM total scores on pretest data were found to be .31 and .56 respectively.

Table 3

PRETEST MEANS FOR SCALES OF THE CMI AND PSM* FOR STUDENTS IN $(CE)_2$ AND THREE COMPARISON GROUPS

Scale	Group			
	$(CE)_2$ (N=49)	CWE (N=26)	THS (N=50)	OSC (N=100)
CMI Attitude Scale	31.6	33.6	35.4	35.4
CMI Knowing Self	9.7	13.4	13.5	13.1
CMI Knowing Jobs	11.7	15.3	16.6	15.8
CMI Choosing Job	9.59	12.0	13.2	12.9
CMI Looking Ahead	9.8	10.3	13.6	12.7
CMI What Should They Do	7.5	7.7	9.7	10.2
PSM Work**	45.3	43.5	54.1	57.7
PSM Self Reliance	45.6	42.4	53.0	54.8
PSM Identity	48.6	43.8	57.3	59.7
PSM Communications	47.7	44.2	53.5	55.2
PSM Role	47.2	41.8	53.4	56.4
PSM Trust	46.0	43.3	55.0	56.3
PSM Social Commitment	57.7	52.0	63.7	66.2
PSM Tolerance	65.6	58.2	73.0	76.6
PSM Change	53.9	50.0	60.0	63.4
PSM Total	459.6	419.2	523.4	558.1
PSM Social Desirability	33.1	29.2	31.9	34.0

*Those means not grouped together by the same line are significantly different at the .05 level (Duncan's Multiple Range Test), e.g. M_1 M_2 M_3 M_4

Means 1 and 2 are not significantly different from each other and means 2, 3 and 4 are not significantly different from each other. Mean 1 is to be interpreted as different from means 3 and 4, however, since it is not underlined by the same line which underlines means 3 and 4.

** Scores shown for the PSM scales are based upon the original longer version of the PSM.

Student Attendance. Attendance data for the 1972-73 school year were collected on the students from THS, CWE and $(CE)_2$ (juniors and new seniors who attended THS during the 1972-73 school year). The mean number of days absent is displayed in Table 4.

Table 4

AVERAGE NUMBER OF DAYS SCHOOL ABSENCE
FOR THE 1972-73 SCHOOL YEAR FOR
THS, CWE AND $(CE)_2$ STUDENTS

Group	No. of Students	Mean Days Absent
THS	74	10.9
CWE	22	16.9
$(CE)_2$*	35	17.7

* Juniors and New Seniors

As can be seen from Table 4, the $(CE)_2$ and CWE students were absent many more days per student than were the students from the random sample at Tigard High School.

Summary. The baseline data indicate that $(CE)_2$ students are more vocationally oriented, less interested in school, weaker in Basic Skills, have a higher absence rate and score as being less "mature" on the PSM than their counterparts at Tigard High School.

III. SUMMATIVE EVALUATION FINDINGS

Introduction

This section of the report contains information primarily regarding student outcomes and, to a lesser extent, employer-related outcomes. The first part of this section reports student outcomes related to program goal statements in Basic Skills, Life Skills and Career Development. For ease of understanding each program goal has been stated in question form. Following the underlined statement of each program goal is a brief rationale explaining why that goal is considered important, a discussion of $(CE)_2$ learning activities related to that goal and a summary of the relevant findings. The second part of this section reports on the evaluation findings according to the evaluation instruments developed and used commonly across the four EBCE project sites. The third part summarizes evaluation findings organized around the instruments used by $(CE)_2$ but not by the other three EBCE sites. The fourth part of this section contains the results of indepth case studies of two $(CE)_2$ students thus giving the reader another way of looking at the project's impact.

PROGRAM GOAL OUTCOME FINDINGS

Basic Skills Outcome Goals

The Basic Skills component of the $(CE)_2$ program corresponds roughly to the "three R's." Included in Basic Skills are reading, mathematics and written and oral communication. All $(CE)_2$ students are expected to participate in Basic Skills activities.

General

Have students participating in the $(CE)_2$ program increased their general abilities in the Basic Skills area at least as much as a comparison group of students enrolled in the regular school program at Tigard High School (as measured by the Comprehensive Test of Basic Skills, CTBS)?

Rationale. Although the $(CE)_2$ program is not designed specifically to teach Basic Skills as measured by the CTBS instrument because the program is to be comprehensive in design, it is important to assure that $(CE)_2$ students learn no less in Basic Skills than their counterparts in the regular high school program. The $(CE)_2$ program can therefore be considered successful if $(CE)_2$ students do better than their counterparts in Life Skills and Career Development, while doing as well as the others in Basic Skills.

Related Learning Activities. In the $(CE)_2$ program the community acts as the teacher. That is, the program feels that most learning skills students are normally expected to learn in the classroom setting can be obtained in a more relevant and meaningful way through contact with the real world. In the program, students are given the opportunity to utilize the community as a "classroom." Students participate in exploration level and learning level experiences at employer sites where they learn what applied Basic Skills are necessary for various occupations of interest to them. Students can then match the Basic Skills requirements demanded by the job with those that they possess and thus identify realistically those Basic Skills areas in which they may need to improve. Employers are also encouraged to identify Basic Skills needs in a particular student. The project staff then work cooperatively with the employer instructors in providing any needed skills. Basic Skills improvement occurs at employer sites through objectives written into students' projects that require them to apply Basic Skills in their work environment. Assistance is also provided to students through tutors employed by the project and through selected programmed materials.

Findings. Data from the pre- and postadministration of the CTBS revealed that $(CE)_2$ students, although lower in performance at the beginning of the school year than the random sample from Tigard High School, gained somewhat more than the comparison group in reading, language expression, arithmetic and study skills. None of the differences in gains between the two groups was statistically significant using an analysis of covariance.

Reading

Have $(CE)_2$ students increased their ability to read a wide variety of materials with comprehension? Do students have an increased interest in reading?

Rationale. A young adult participating in today's society continually encounters the need to read. Even the simplest and most essential of life's tasks require the ability to read with comprehension. The greater the student's capabilities, the less limited he or she will be in pursuing careers and other life areas. Everyday reading activities such as keeping informed through the newspaper, following information signs at work and in public and communicating through the mail point out the importance of this skill. In addition, vast amounts of human knowledge and entertainment are accessible only through reading. A student who is interested in broad topics available through reading stands an improved chance of becoming a well-rounded, capable human being.

Related Learning Activities. In addition to the related activities discussed under General Basic Skills, the $(CE)_2$ project staff work closely with the students and employer instructors in identifying a wide variety of relevant

reading materials associated with different occupations. Thus students gain experience through reading materials such as company brochures, manuals, forms, parts' lists or periodicals.

Findings. On the basis of pre- and postadministration of the reading subsection of the CTBS, student participants in the $(CE)_2$ program showed a statistically significant gain in reading level. However, the program students' gain in this area was not statistically different from the gain made by the Tigard High School comparison sample. On a Newspaper Reading Exercise designed to assess the applied reading skills of a sample of $(CE)_2$ students, statistically significant growth over the year was demonstrated.

In response to these items on the Student Questionnaire, "Do you enjoy reading?" "This past year approximately how many books did you read?" and "Do you read the newspaper?" $(CE)_2$ students did not report a significantly increased interest in reading between September and May.

Mathematics

Have $(CE)_2$ students increased their ability in mathematics this year?

Rationale. The use of basic mathematics skills is an essential part of everyday tasks such as keeping a checkbook, measuring quantities and computing income taxes. These tasks demand that the young adult have a firm grasp of mathematical computation methods.

Related Learning Activities. The $(CE)_2$ student is able to use the community to gain mathematics skills in an applied, relevant manner often missing in the traditional high school setting. The tasks encountered at the learning level site frequently require the student to utilize computational ability. This strategy forces the student to recognize the value of having mathematical skills. If his or her ability is lower than that needed to perform the task, the student is responsible for upgrading those abilities to an adequate level. This upgrading of mathematics skills is accomplished through the use of projects specifically designed to meet the student's needs. Independent study and individual tutoring are also available to the student.

Findings. Pre- and postadministration of the Arithmetic subsection of the CTBS showed program students to have made a statistically significant increase in their scores in this area. $(CE)_2$ students on the average increased their grade equivalent scores .7 years. This compares to a decrease of .1 grade equivalent shown by the Tigard High School comparison group.

Writing

Have $(CE)_2$ students demonstrated an increase in their ability to use writing to express ideas and feelings in a clear and correct manner? Have they improved their writing in terms of organization, logical development, clarity, sentence structure, grammar, legibility and technical quality?

Rationale. The ability to write clearly and correctly is a basic prerequisite for many aspects of daily living.

Related Learning Activities. Some skill in writing is required in almost every career. As such, the community and specifically the employer learning level site provides an excellent opportunity for the student to develop applied basic writing skills using job requirements as the vehicle.

The student also develops writing talents through work on projects specially generated to meet his or her individual needs and through writing in the student journal.

Findings. Data from a locally developed Writing Sample did not indicate significant growth in this area over the year by $(CE)_2$ students. While students increased their scores (from pre- to posttest) slightly on eight of the ten subscales, none of the differences was significant. Data also were collected from a comparison group of students at Tigard High School but because of miscommunication of instructions during the posttest administration, the results could not be validly scored.

On the Language subtest of the CTBS, $(CE)_2$ students on the average increased their score from 50.9 on the pretest to 53.5 on the posttest. This difference was not statistically significant. The comparison of change on this subtest by $(CE)_2$ students with change by the THS comparison group also yielded no significant differences.

Oral Communications

Have $(CE)_2$ students demonstrated an increased ability to communicate verbally in an effective and comfortable manner with employers and other adults with whom they associate?

Rationale. The ability to communicate orally in a clear and correct manner is a prerequisite to functioning adequately in the adult world. Many areas of life require the young adult to demonstrate the skills of listening and speaking; a person's successful employment and his abilities in social situations are but two examples of major life areas in which oral communication plays a vital role in the degree of satisfaction obtainable.

Related Learning Activities. Unlike the typical high school curriculum the $(CE)_2$ learning process places students in constant contact with a wide range of adults in the community--each adult holding a different role and responsibility. To successfully participate in the program, the student is forced to communicate orally with students and adults in both formal and informal settings. These experiences serve to develop the individual's verbal skills. Such development takes place throughout the program, but it is particularly apparent in the student's interaction at employer sites. In exploration levels the students are required to interview an employer about a job. In learning levels the student learns to communicate both feelings and ideas with adults.

Students are also given opportunities throughout the year to talk about $(CE)_2$ to groups of visitors. The project's student coordinator has conducted an Interpersonal Communications workshop for students desiring to improve in this area. The project staff have recognized the importance of interpersonal communications and have made this one of four major areas to monitor in students this year in the weekly student staffings.

Findings. No direct measures of oral communications ability were utilized as part of the evaluation plan this year. Several indirect measures were available however.

On the subscale of the Psychosocial Maturity Scale that deals with attitudes toward communication and personal interaction situations, $(CE)_2$ students demonstrated significant gains from pretest to posttest.

In response to a question on the midyear Student Opinion Survey dealing with the learning level site experiences, 69 percent of the students indicated that they thought it was now easier to talk with adults (after the experience); 12 percent indicated that they were not certain of the impact of the experience; and 19 percent said the experience did not make communicating with adults any easier. Ninety-six percent of the students reported that they felt free to talk and joke around with people at work.

On the Student Opinion Survey, $(CE)_2$ students were asked to rank 15 program outcomes in order of effectiveness. $(CE)_2$ students ranked the program's accomplishments in teaching communication skills as the sixth most effective of the outcomes. Parents, staff and employers, using other instruments, ranked it as the third most effective aspect of the program. A second program outcome, dealing with the improvement of interpersonal and social skills, was ranked tenth most effective by the students, eighth most effective by employers, and sixth and fourth most effective by parents and staff respectively. Table 5 ranks these program outcomes according to their perceived effectiveness.

Table 5

EFFECTIVENESS OF ACCOMPLISHMENT RANKING
FOR PROGRAM OUTCOMES

Program Outcomes	Groups			
	Staff	Parents	Employers	Students
Perform specific occupational skills	5	4	13	9
Be punctual and organize their time	14	15	15	12
Assume responsibility for themselves	6	9-10	6-7	3
Make decisions and follow through	9-12	11	12	5
Communicate with others in a mature way	3	3	3	6
Be aware of more career opportunities	8	1	1	1
Work with others	1-2	2	2	2
Evaluate their own work	9-12	12	11	14
Perform basic academic skills	9-12	13	14	8
Think through and solve problems	7	9-10	10	7
Have a realistic attitude toward self	1-2	6-7	5	10-11
Have a positive attitude toward work	9-12	5	6-7	13
Have a positive attitude toward learning	15	8	4	4
Prepare for further education	13	14	9	15
Improve interpersonal and social skill	4	6-7	8	10-11

On another instrument, the student coordinator was asked to rate $(CE)_2$ students on how well they interacted with others when they entered the program and again at the end of the year. A summary of these ratings (see Table 6, page 29) indicates that 19 students demonstrated positive change in their interaction behavior, 4 demonstrated negative change and 12 students made no change during the year.

Life Skills Outcome Goals

The Life Skills include the attitudes and skills necessary to integrate the multiple roles that students will play in their daily lives. The Life Skills portion of the $(CE)_2$ curriculum builds awareness and skills in: personal and social development, functional citizenship, critical thinking, creative development and science. Thirteen competencies (survival skills) help round out the Life Skills area.

Critical Thinking

Did students increase their ability to gather, analyze and interpret information and to seek solutions to their problems?

Rationale. The student faces the need to make important decisions many times throughout his or her lifetime. The use of critical thinking skills enables the student to more often make the most advantageous decision.

Related Learning Activities. The $(CE)_2$ program continually forces student participants to develop their critical thinking skills through the use of two learning projects per year and through explorations on job sites. The student is repeatedly confronted with the need to gather data and then use it to make viable decisions. For critical thinking, as in all Life Skills areas, all $(CE)_2$ students are required to engage in activities to improve their skills. While an opportunity to do this might be available at the regular high school, not all students are required to interact with all Life Skills areas.

Findings. Student Opinion Survey questions regarding the effectiveness of the program in accomplishing student learning in the area of critical thinking were ranked in Table 5, page 22. $(CE)_2$ students ranked the program's ability to help students make decisions and follow through as fifth in effectiveness out of fifteen program outcomes. On a similar instrument the staff ranked it ninth, parents ranked it eleventh, and employers twelfth. Students and staff ranked the program's ability to teach students to "think through and solve problems" as the seventh most effective outcome. Parents ranked it ninth and employers tenth.

On the Study Skills section of the Comprehensive Test of Basic Skills, which measures the student's ability to use a variety of resources to solve problems, $(CE)_2$ students exhibited a statistically significant positive gain over the year, going from 25.3 to 30.2. This gain, however, did not differ significantly from that shown by the Tigard High School comparison group.

Students also responded to a semantic differential instrument, one section of which measured attitudes toward the term "Decision Making." In

reacting to this term, students exhibited a positive gain in attitude which, between pre- and posttesting, was significant.

On the Psychosocial Maturity Scale 54 percent of the $(CE)_2$ students in September agreed or strongly agreed with the statement that "in a group I prefer to let other people make the decisions." In May, 46 percent of the $(CE)_2$ students agreed or strongly agreed with that statement.

A total of 85 critical thinking projects was planned by project learning managers this year. Seventy of these projects were completed by the students by June. A summary of the staff's evaluation of student products (outcomes resulting from the projects) shows 48 percent of the products received positive comments from the learning managers, 37 percent received neutral comments and 15 percent were given minimally acceptable ratings. Fifteen projects were left incomplete by students.*

In addition to the quantitative measures related to student attitudes, an attorney, Mr. Norman Sepenuk of Portland, Oregon, was employed as an expert consultant to evaluate the design of the critical thinking goals, projects and objectives. It was his opinion that the projects were meaningful, community-based learning experiences and that they were useful in leading students to the outcome goals. His primary suggestion was to examine the possibility of having students develop their own projects in the critical thinking area. The actual development of the project would force the student to encounter critical thinking opportunities that would not otherwise be available.

Science

Have students increased their ability to recognize and apply scientific procedures and methods in daily life? Can students analyze the impact of technology on both the environment and man's cultural values?

Rationale. The existing level of technology in this country has brought every person into contact with the influence of science. Understanding scientific procedures and the effects of the resultant processes on the natural environment and on human values is an essential step toward meaningful participation in today's society.

Related Learning Activities. The $(CE)_2$ program attempts to develop this understanding through the use of projects specifically designed to involve students in the consideration of some aspect of science. Learning activities require the student to actually use scientific processes in exploring both the factual background and cultural implications of a subject. The student may often utilize the employer site for his investigation; special community

* Projects begun by students in their junior year may be completed during the senior year.

resources are also available. The projects are formulated to direct the student toward accomplishing the behaviorally-written learning objectives.

Findings. While the broad nature of the overall outcome goal does not allow precise measurement of student achievement, significant evaluation of the science Life Skills area can be performed. Mr. Thomas A. Wayne, a science professor at Lane Community College, was employed to determine the success of the science projects in directing student learning toward the outcome goal. His principal conclusion was that completion of the two required science projects did indeed lead the student to the desired goal, that the project activities relate well to the learning objectives and that projects were educationally meaningful. A weakness was pointed out in the limited utilization of the Life Skills assessment information in the actual preparation of student activities. Specifically, 14 of the 26 projects did not contain information about the results of the Life Skills Assessment Test in science. In only two of the projects was there perceived to be a need to increase the project's emphasis on the use of community resources as a means of completing the project.

Most projects were judged by the expert to be highly related to the learning objectives; only five projects did not gain ratings of one or two on a five-point scale measuring the degree of relationship between project outcomes and learning objectives. However, 8 of the 26 projects did not clearly state the learning objectives to be accomplished. In addition, almost every project was perceived to demonstrate the features of a meaningful learning experience. In summary, Wayne noted, "There is the strongest indication that the projects as written serve as useful tools to lead the student from the learning objective to the outcome goals."

The science projects varied considerably in their emphasis; some were more purely scientific in their orientation (e.g., Basic Anatomy and Its Processes, Nuclear Energy) while others were more applied (e.g., ESP, Mysticism and the Occult, The Sewing Machine). A total of 69 science projects were planned by students and staff this year. Of this total, 56 were completed by June. Thirty-one were completed outside of the learning center and 19 of these involved the student's work at an employer site. Nineteen percent of the students' completed products were rated as minimally acceptable by the learning managers; 56 percent were rated high in quality. The remaining 25 percent of the students' work received neutral comments from the learning managers.

Creative Development

Have students increased their participation in the creative process of blending new and/or existing materials, ideas or concepts into unique forms and experiences? Can they identify the effects and desirability of these creative experiences?

Rationale. Education in the traditional setting often concerns itself primarily with a repetition of past facts rather than stressing individuality and creativity in the present. Creativity is an essential element of self-expression; the development of one's creative abilities is an important step in satisfactory overall growth.

Related Learning Activities. Student learning projects in the $(CE)_2$ program are chosen to help direct creative growth. Two projects during the year are intended to provide each student with an opportunity to transform one of his or her own interests into a unique and creative learning experience that does not perpetuate the often irrelevant methods of the typical curriculum.

Findings. Since creativeness is centered in process rather than in product, student achievement related to the outcome goal is difficult to measure. However, an extensive evaluation to determine the efficacy of directing the student toward the outcome goal was conducted by Mr. Terry Melton, Executive Director of the Oregon Arts Commission. His analysis pointed out several perceived shortcomings in the creative development projects prepared for students. It was his opinion that many of the student projects were too preoccupied with styles and techniques rather than processes; that many of the projects did not truly lead the student to creative thought but instead simply provided the student with an understanding of some craft.

Each of the 17 student projects (covering such diverse subjects as cartooning, maze construction and comparative classical music) available at the time of the evaluation was rated by the expert in terms of its potential for creative "thinking-learning." Only four of the projects were rated as having a substantial positive potential for getting to the "creative essenses." Melton felt that completion of the required two projects in this area would lead the student to the desired outcome goal only if the two projects performed contained this substantial positive potential. It was his opinion that the projects showed more general emphasis on action skills than on thinking skills.

This consultant thought that the writers of the creative development projects perhaps treated creativity much the same as instructors in the standard high school setting--as something that can be demonstrated more by an action process than a thought process. It was Melton's opinion that this priority should be reversed, and that true creativity is almost totally a thought-based accomplishment. It should be noted, however, that 11 of the 17 projects examined were felt to contain at least some potential for directing the student toward an understanding of the creative process; this percentage is perhaps higher than could be anticipated for "creative projects" in the traditional curriculum. In addition, it may be possible for students, through their learning projects, to indeed participate in the creative process regardless of their degree of understanding of the process itself.

A total of 67 creative development projects was generated by program learning managers this year. Of this number, the staff certified that 45 were completed successfully by the students. Thirty of the completed projects were performed outside of the learning center, but only seven of these were completed at employer sites. A summary of learning manager comments on the Student Project Evaluation Form indicates the following: 46 percent of the creative development projects resulted in positive learning manager comments about the quality of the student's product; 40 percent of the evaluations were neutral; and the remaining 14 percent were regarded as minimally acceptable.

Functional Citizenship

Have students increased their ability to understand democratic processes in the local, state and federal governments and in the private sector? Do they apply those processes in their personal actions as well as in their relationships to private and public institutions?

Rationale. There is probably little question that an increased awareness of the workings of government and the responsibility of citizenship is highly beneficial to both the student and to society. The daily application of democratic principles combined with a knowledge of the framework of our governmental systems can do much toward making the student an effective citizen.

Related Learning Activities. The $(CE)_2$ program attempts, through use of carefully designed projects, to place the students into a learning situation where their own efforts will lead them to discover the role citizenship plays in making a well-rounded member of the adult world. In addition, five of the student competencies relate directly to citizenship objectives (e.g., "understand the basic structure and function of local, state and federal government," "explain one's own legal rights and responsibilities"). The student accountability system encourages students to be responsible for planning their own learning program and coordinating their own day-to-day activities. Finally, through the process of student staffing, student progress in the area of personal responsibility is monitored and individualized activities are planned.

Findings. Two characteristics of this Life Skills area make evaluation of the program's success very difficult. The first, of course, is the extremely broad nature of the outcome goal. The second is the difficulty in observing student citizenship behavior in a realistic setting; that is, much of the true growth of program students in the area of functional citizenship cannot be determined in an experimental situation.

An average of 14 students completed each of the 5 "citizenship" competencies. This compares to an average of 26 students completing the other 8 competencies.

Six students completed the competency, "understand the basic structure and function of local, state and federal government," and five students completed the competency titled "explain one's own legal rights and responsibilities." Further discussion on this point is contained under the question dealing with competencies on page 30. A total of 69 functional citizenship projects were written by the program staff; 47 of these were completed by the end of the school year. The learning manager ratings of the student products imply that these functional citizenship projects were the poorest of any of the Life Skills project groupings. The same number of products (36 percent) were rated as minimally acceptable as were rated positively, while 28 percent of the students' work received neutral comments.

Personal-Social Development

Have students increased their ability to determine "Who they are," "What they are," and "Where they are going?" Do they accept the responsibility for the effect that their behaviors and attitudes have on themselves and on other people?

Rationale. Personal management skills, including mental health skills, self-analysis, self-direction, and an understanding of responsibility are essential to life adjustment. The student's personal well-being as an adult depends in large part on the ability of the educational system to reinforce growth in these areas.

Related Learning Activities. Several aspects of the $(CE)_2$ instructional system are designed to provide direction to the students' personal and social development. As in all the Life Skills areas, students working in this area use projects to help them achieve the designated outcome goal. In addition, students face many of the responsibilities required of mature adults when they participate at employer sites. Getting along with coworkers, being on time and having a respect for property are only a few examples of the "working world" habits that a $(CE)_2$ student must develop.

Activities of the student/staff retreats, Wednesday student meetings and individual work task negotiations between staff and students also provide an opportunity for the student's personal and social improvement. A program accountability system is in operation. This system helps students understand the importance of adhering to established procedures. Rewards and penalties are employed to help students become more responsible for their own behavior. The program's structure also provides each student with subtantial opportunities for receiving counseling and guidance from staff, employers and community individuals and agencies.

Findings. On the Psychosocial Maturity Scale $(CE)_2$ students demonstrated a statistically significant gain on the Personal Adequacy scale. A gain was likewise noted on the Semantic Differential where students demonstrated a positive change in attitude toward the concept of "Me."

A total of 69 projects were generated in the personal and social development Life Skills area. Fifty-seven of these projects were completed by students. Positive ratings were given by the learning managers to the quality of the products from 39 percent of these projects completed; neutral ratings were given to 33 percent; and 28 percent received negative ratings (low quality).

The student coordinator was asked to rate each of the $(CE)_2$ students on four variables (responsibility, cooperation, interactions and enthusiasm) when they entered the program and again at the end of the school year. A summary of these ratings indicates positive growth by at least 30 percent of the students in each area. The frequency and direction of change in each area is summarized in Table 6. As can be seen in Table 6, the student coordinator observed growth most frequently in the area of improved personal interactions of students with adults and peers. There were also some students who were judged as having made negative growth in each area.

Table 6

SUMMARY OF STUDENT CHANGE IN RESPONSIBILITY, COOPERATION, INTERACTIONS AND ENTHUSIASM AS RATED BY THE $(CE)_2$ STUDENT COORDINATOR

Type of Change	Type of Behavior			
	Responsibility	Cooperation	Interaction	Enthusiasm
Positive Change	14*	15	19	11
Negative Change	7	6	4	7
No Change	14	14	12	17

* The quantities in the cells represent the number of students exhibiting positive, negative or no change.

Competencies

Have students demonstrated survival skills that cover the economic, planning, legal-political, safety-health, property maintenance, recreational and occupational aspects of living; i.e., can students perform behaviors considered by the community to be some of the minimal functional requirements for living in today's society?

Rationale. A critical aim of the $(CE)_2$ program is to provide students with the opportunity to learn skills considered essential to their survival in the adult world. Competencies such as responding to emergencies or holding a job are required of mature members of society. Quite often no segment of the traditional high school curriculum will consider these mandatory Life Skills, dwelling instead on more academic but less relevant topics.

Related Learning Activities. In the $(CE)_2$ program information is made available to the students to direct their independent learning of the competencies. The student studies until he feels secure in his or her ability to perform the task. An expert in the community is then contacted to act as the "competency certifier." Students demonstrate their ability to perform the competency to this expert, who, if satisfied, certifies that the student does in fact possess the required Life Skill. The 13 $(CE)_2$ program competencies are: (1) transact business on a credit basis; (2) maintain a checking account in good order; (3) provide adequate insurance for self, family and possessions; (4) file state and federal income tax statements; (5) budget time and money effectively; (6) maintain the best possible health and make appropriate use of leisure time; (7) respond appropriately to police, fire and physical health emergencies; (8) participate in the electoral process; (9) understand the basic structure of local, state and federal government; (10) explain one's own legal rights and responsibilities; (11) make appropriate use of public agencies; (12) make application for employment and successfully hold a job; and (13) operate and maintain an automobile. A student is required to complete all of the competencies to graduate from the program.

Findings. Table 7 lists the competencies certified for $(CE)_2$ students for each month during the school year. The data in Table 7 indicate that work on completing the competencies fluctuated over the course of the school year (see column totals). The row totals indicate that some competencies were attained much more often than others. For example, transacting business on a credit basis was certified for 94 percent of the students, whereas explaining one's legal rights and responsibilities was certified for only 10 percent of the students. Competencies 8, 9 and 10 dealing with functional citizenship were each completed by less than 20 percent of the students. This was partially due, in the opinion of some of the staff, to the fact that these three competencies were viewed by many students as quite complicated and were thus avoided. Revision of the competencies in functional citizenship this summer should make them more understandable and interesting to students. The percentage figures in Table 7 are based on 50 students although program enrollment varied, due to student withdrawals and entrances throughout the year. (Thirty-five of the 50 students spent the entire school year at $(CE)_2$. Data from students who withdrew from the program before May 1 are not included.)

A total of 281 competencies were completed by the 50 students this year for an average of 5.6 competencies per student. This compares to 76 completed last year by 25 participating students for an average of 3 competencies per student. The relative popularity of particular competencies has not varied substantially from last year.

Table 7

NUMBER OF COMPETENCIES CERTIFIED FOR $(CE)_2$ STUDENTS BY MONTH

Competencies Certified	Month										Total From Last Yr.	Total	% of Students Enrolled
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June			
1. Transact Business on A Credit Basis	0	3	9	0	0	16	0	11	6	0	2	47	94
2. Maintain a Checking Account in Good Order	7	15	1	1	1	2	2	12	0	0	4	45	90
3. Provide Adequate Insurance for Self, Family and Possessions	0	0	5	2	1	4	0	6	9	0	2	29	58
4. File State and Federal Income Tax	0	0	2	2	1	1	1	8	8	2	3	28	56
5. Budget Time and Money Effectively	4	2	2	4	0	0	1	1	1	2	0	17	34
6. Maintain the Best Physical Health and Make Appropriate Use of Leisure Time	0	0	0	0	0	0	1	3	5	1	0	10	20
7. Respond Appropriately to Fire, Police and Physical Health Emergencies	0	2	4	2	2	3	4	3	0	3	1	24	48
8. Participate in the Electoral Process	0	1	1	0	0	0	0	2	1	2	1	8	16
9. Understand the Basic Structure and Function of Local, State and Federal Government	0	0	0	0	0	3	0	0	0	3	0	6	12
10. Explain Own Legal Rights and Responsibilities	0	0	0	0	0	0	0	0	0	3	2	5	10
11. Make Appropriate Use of Public Agencies	1	0	0	0	2	3	4	1	6	0	0	17	34
12. Make Application for Employment and Successfully Hold a Job	3	4	5	0	2	4	0	4	0	0	6	28	56
13. Operate and Maintain an Automobile	3	2	0	1	1	5	1	0	3	1	0	17	34
Total	18	29	29	12	10	41	14	51	39	17	21	281	

Student opinions about the usefulness of the competencies were also collected. A sample of 14 students was interviewed in February by the evaluation unit and asked to rate the usefulness of various segments of the $(CE)_2$ program learning process as either high, medium or low. Six of the students felt the competencies were highly useful in their learning, eight felt that they were of medium usefulness. No student interviewed felt the competencies were of low usefulness.

Career Development Outcome Goals

The Career Development component of $(CE)_2$ has the goal of providing students with the opportunity to explore and learn about specific careers at actual job sites, while at the same time enabling them to learn more about their own interests and aptitudes and how they fit into the world of work.

Have $(CE)_2$ students increased their knowledge of their own aptitudes, interests and abilities and applied this understanding to their potential career interests?

Rationale. The $(CE)_2$ project staff consider a mature career choice to be one in which a person matches a knowledge of his or her own aptitudes, interests and abilities to the characteristics related to a given occupation. Such a match requires an adequate knowledge of self.

Related Learning Activities. $(CE)_2$ students are required during each program year to use five different employer learning sites for exploration level experiences. Each exploration level lasts approximately three to five days. During and after completing each exploration level, the student completes an Exploration Level Package which requires that the student obtain career information such as company policies, nature of the work, work environment, qualifications and preparation required, earnings and fringe benefits and future employment prospects. The exploration level also develops and enhances the student's ability to understand his or her interests, abilities and skills and to match these with job characteristics.

Other resources used by $(CE)_2$ students to help them better understand their own aptitudes, interests and abilities and their relationship to potential careers are the Self-Directed Search and the Career Information System. The Self-Directed Search is a self-administered inventory of educational and vocational planning in which the student identifies preferred activities, competencies and occupations. The Career Information System, developed by the University of Oregon in cooperation with several other agencies, is an interactive computer program that students can access whenever they wish on the $(CE)_2$ terminal. This computer system helps the student to

identify and match certain personal and job characteristics such as physical limitations, preferred location for living and working, education and training requirements, aptitudes, interests and job earnings. Information from both of these instruments was used to guide students in the selection of appropriate job exploration sites.

Findings. Indirect measures of knowledge of self indicate significant growth over the year on the Semantic Differential in attitude toward the concept of "Me." Significant change was also noted on the Individual Adequacy scale of the Psychosocial Maturity Scale. On the midyear Student Opinion scale, students ranked the program's ability to help students have a more realistic attitude toward themselves as tenth most effective of fifteen outcomes. Parents ranked it as the sixth most effective, employers fifth, and the $(CE)_2$ staff ranked it as the most effective aspect of $(CE)_2$ (see Table 5, page 22).

On the Student End of Year Questionnaire, $(CE)_2$ students reported their year's experiences as more helpful in building their understanding about themselves than did any of three other comparison groups of students. One a five-point scale, with five being "very helpful" and one being "of little or no help," $(CE)_2$ students gave an average rating of 4.2 to this item. This compares to a rating of 3.3 by a random sample of Tigard High School (THS) students; 3.7 by a sample of students from the Occupational Skills Center (OSC); and 2.9 by students in the Diversified Occupations Cluster of the Cooperative Work Experience (CWE) Program at Tigard High School. To a second question asking how helpful the student's $(CE)_2$/school experiences were in helping the student prepare for future learning, whether in school or on the job, $(CE)_2$ students rated their program as 4.0. THS and CWE students were somewhat lower (2.9 and 3.0) and OSC students rated their program at 3.8.

To the extent that willingness to express a career choice is an index of student ability to match self with career opportunities, a slight increase was noted during the course of the year. In the fall, 15 percent of $(CE)_2$ students indicated they did not know what they would be doing one year after graduation. By the end of the year, 12 percent indicated that they did not have plans for one year after graduation. It should be remembered, however, that September figures represent all students who completed the student information questionnaire then, while the May figures involve a number of students who joined $(CE)_2$ during the year and excludes students who dropped out of the program throughout the year. Reductions in short term career uncertainty were also noted for students in the OSC and CWE programs. All of the students in the random sample at THS in September expressed a short term career or educational goal while 11 percent of them in May indicated uncertainty about what they would be doing one year after graduation. When 1972-73 graduates of $(CE)_2$ were presented the statement

"$(CE)_2$ helps me decide what I want to do after high school," four agreed with the statement and three expressed disagreement.

On three questions from the Student End of Year Questionnaire that dealt with preparation for and knowledge of the steps necessary for entering a chosen career (items 9, 10 and 11), $(CE)_2$ students indicated a level of preparation and knowledge similar to the comparison groups. Responses from $(CE)_2$ and the comparison groups indicated better career preparation than the results from a national sample of 3,000 high school juniors using the same question.

Have $(CE)_2$ students increased their knowledge of social and economic issues and trends of the world of work?

Rationale. Before a person chooses an appropriate career he or she should have adequate knowledge of the world of work as well as knowledge about a particular job.

Related Learning Activities. One of the primary strategies used by $(CE)_2$ to communicate an understanding of social and economic issues and trends of the world of work is that of employer seminars. In these seminars this year employers discussed with students procedures for applying for a job, the impact of economics on our lives, the changing work ethic and job discrimination.

Knowledge of social and economic issues and trends was sometimes gained by students on an individual basis through explorations and learning level experiences, and through student projects.

Findings. On both the Semantic Differential and the Psychosocial Maturity Scale, $(CE)_2$ students expressed more positive feelings about the concept of "Work" at the end of the year than they did in the fall.

On eleven questions measuring common misconceptions about the world of work used in the Student End of Year Questionnaire (items 12-22), $(CE)_2$ students did not score significantly different from any of the three comparison groups. No pretest data were collected in this area. The scores for $(CE)_2$ students and the comparison groups were slightly higher than those obtained from a national sample of 3,000 eleventh graders.

Two questions included on the Student Opinion Scale at midyear dealt directly with an understanding of the world of work. In response to a question that asked "In comparison with regular schools, how much opportunity did the Career Education Program provide you for learning about occupations?" 95 percent of $(CE)_2$ students responded "More" or "Much More." Five percent responded "About the Same." In response to a second question dealing with knowledge about salaries, education and special skills associated

with selected occupations, $(CE)_2$ students scored the same as the THS and CWE groups. On the Attitude Scale of the Career Maturity Inventory, $(CE)_2$ students demonstrated a significant positive change from pretest to posttest. This change was not observed among the comparison groups.

Have $(CE)_2$ students developed the general skills of job finding, job application, on-the-job negotiation and daily work interactions? Have they developed entry level work skills when appropriate?

Rationale. Mastery of general and specific career skills is essential for obtaining and holding a job. Some skills such as being able to use a variety of sources to locate available jobs, writing resumes and interviewing for a job, and successfully interacting with supervisors and coworkers on a job are considered essential for all students and can best be mastered through direct experiences. The development of specialized entry level skills for a potential career of the student's choice has not been mandated for all students because some have not made a firm choice and others are planning to enter jobs requiring postsecondary preparation.

Related Learning Activities. The $(CE)_2$ project offers students opportunities for general and specific job skills through exploration and learning levels; employer seminars, such as the one on job application procedures; student projects taking place at employer sites; and the competency requiring a student to make application for employment and successfully hold a job.

Findings. The most direct measure of the students' ability in this area is the number of students attaining competency number 12, "Make Application for Employment and Successfully Hold a Job." A total of 28 students, or 56 percent of the program's maximum enrollment, attained this competency this year.

Data provided by participating employers on the Student Performance Review indicate that $(CE)_2$ students are developing the skills needed in daily work interaction. Employers report that students seek feedback on their performance, accept criticism and use it constructively, and progressively seek less supervision over time.

A review of the student portfolios at the end of the year indicates that a wide variety of special skills have been attained by $(CE)_2$ students during the course of the year. A list of over 200 of these skills is included in Appendix M.

Have $(CE)_2$ students analyzed potential careers for financial and psychological inducements, training needs and resources?

Rationale. Knowledge of financial and psychological career inducements, training needs and resources help students plan more realistically for careers and career training.

Related Learning Activities. Use of the Career Information System at the computer terminal provides students with a quick knowledge of job requirements and rewards for a number of areas in which they may have a potential interest. Direct experience at the exploration level gives students a first-hand knowledge about what particular jobs are like and about the life style of people occupying such positions. A more detailed understanding of job requirements and rewards occurs through learning level experiences.

Findings. A review of a limited sample of eight taped student-employer interviews completed as part of the Exploration Package, suggests that some students are more adept than others at analyzing jobs for potential rewards, training needs and resources, but that most interviews contained questions dealing with these issues.

In February a questionnaire was administered to students in $(CE)_2$, students in the Diversified Occupations Cluster of the Cooperative Work Experience program at Tigard High School and a random sample of juniors and seniors at Tigard High School. One of the items on this questionnaire asked students to "write down the same three jobs you listed in the prior question. For each job listed, indicate what you think is the (1) starting monthly salary; (2) the highest education required (for example, high school graduate, apprenticeship program, college degree, postcollege professional degree, etc.); and (3) two special skills required (for example, a dentist needs good eye/hand coordination). If you have no idea of the salary or other information about a job, write 'Don't Know.'" On the question related to job salary, $(CE)_2$ students provided less information than did the CWE or THS students. $(CE)_2$ students knew more about the educational requirements of jobs than did the CWE students, but not as much as did the THS students. $(CE)_2$ students also scored slightly less than THS on the knowledge of specific skills required. $(CE)_2$ and CWE scored about the same on this question. In general, none of the three groups had accurate knowledge of the jobs.

FINDINGS FROM COMMON INSTRUMENTS

This section reports results from those evaluation instruments used commonly at all four EBCE sites. The following section of this chapter, "Findings from Unique Instruments," reports results from instruments used at $(CE)_2$ but not at all three of the other EBCE sites.

Student Opinion Survey

During late January, all $(CE)_2$ students who had been in the program since fall responded to a survey dealing with their perceptions of (1) the general

quality of the program, (2) effectiveness of the program in achieving specified goals, (3) their reasons for joining $(CE)_2$, (4) some characteristics of their job site experiences, and (5) their attitudes toward working. The questionnaire also assessed the students' knowledge of specific information about occupations of interest to them.

The first 36 items of the questionnaire--common to questionnaires used at all four sites working with EBCE programs--dealt with students' perceptions of the EBCE program and the world of work, as well as their reasons for participating in the program. NWREL evaluators added questions requiring $(CE)_2$ students to rate the desirability of specific program goals and the program's effectiveness in achieving the goals and to answer specific questions about the job site experiences. Students were asked in two of the added questions to select three occupations, describe how they learned about them and estimate the starting monthly salary, highest educational level required and specific skills required. These questions were placed on separate pages to minimize the possibility of students' knowledge of occupations affecting their choice of occupations of interest to them. Students also ranked, in question 41, the influence various people had on their decisions to participate in $(CE)_2$.* A copy of the complete Student Opinion Survey as well as student responses is included in Appendix C. The following narrative describes student responses from that survey.

During data analysis, survey responses were initially categorized by the three groups of students within $(CE)_2$: returning seniors, new seniors and juniors. A chi square analysis indicated only sporadic differences significant at the .05 level. Since no pattern of differences was detected, further analysis was done on data for the total group only.

$(CE)_2$ student responses to those questions used commonly by all four EBCE Laboratories were positive toward the program. For all questions the majority of students exhibited a positive attitude toward all aspects of $(CE)_2$. Especially strong ratings were given for students' enjoyment of $(CE)_2$, their motivation, the amount they learned about careers and the capability of the staff. The program was rated somewhat less highly, although still positively, in areas concerning students' choice of job sites and activities, feedback from the program, employer awareness of student needs and the academic program's relevance to careers.

The common questions also dealt with students' reasons for participating in $(CE)_2$. Rated most important in their decision to participate were students' desire to choose their own learning styles, to have more independence and to prepare for jobs; negative attitudes toward high school were less important. Most students indicated that their decision to participate in $(CE)_2$ was not influenced by their belief that the program was easy.

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* These last three questions were given not only to $(CE)_2$ students, but also to students in the Cooperative Work Experience program at Tigard High School and a random sample of students at Tigard High School.

A question developed by NWREL was used to determine student attitudes toward specific program goals and perceived success in reaching the goals. The four program goals students rated most important were learning to (1) work with others, (2) make decisions and follow through, (3) assume responsibilities for themselves and (4) have a positive attitude toward learning. The four goals with the lowest average "importance" ratings were for students to learn to (1) prepare for further education, (2) evaluate their own work, (3) perform basic academic skills and (4) improve interpersonal and social skills. Student ratings of the effectiveness of the program indicated little differences in the program's achievement of important versus less important goals. Mean ratings of importance and effectiveness for each goal are included in Table 8, page 47.

In describing learning level experiences students indicated that the activity was good in terms of interactions with employers and people at the site and in terms of organization of the experience. Every student said that he or she received clear instructions when necessary and all but two students felt free to talk and joke around with people at the work place. Students indicated that they usually participated actively, learned something new most days, were interested in things at their job sites, had a variety of assignments and felt the experience would make it easier to work in a regular job. They also stated that employers did not get upset when they made a mistake and told them when they did a good job.

The final questions dealt with students' knowledge of occupations and people who influenced them in their decision to participate in $(CE)_2$. In general, $(CE)_2$ students most often learned about jobs from actual work experiences or from someone who worked at the job. Information was also obtained from school or project staff or from reading about the job. $(CE)_2$ students used knowledge from actual work experience, the Career Information System and a counselor or teacher more often that the CWE or THS_1 group. Other sources of information (such as parents or relatives, friends, or reading about it) were used by $(CE)_2$ students less frequently than either of the other two groups.

In judging students' knowledge of jobs, answers concerning the three jobs chosen were scored on a three-point scale: 0=don't know or an incorrect answer; 1=partially correct answer; 2=correct answer. A member of the NWREL staff not associated with the EBCE staff was used to score these job knowledge items. Identical questionnaire pages for the $(CE)_2$ and comparison groups were used. The preceding pages containing the student's name and group were detached, leaving only a specially coded identification number for each student's sheets. Thus the scorer was unaware of which pages represented which student groups.

Because the three jobs of interest requested from each student were not always provided, the evaluators had each job and its set of information scored independently rather than computing a total summary score. Thus

question 40 on the Student Opinion Survey shows a separate score for each job for salary, one for highest education or training required and two scores for special skills required by the job (since the item asked students to list two special skills per job). Questions were rated on the basis of their agreement with information in the Occupational Outlook Handbook. A spot check on salary information was made by also looking up salaries listed in the Career Information System available on the computer to $(CE)_2$ students. Salary information was considered correct (a score of two) if it was within a 25 percent range, plus or minus, of the actual figure listed in the Occupational Outlook Handbook. Salary information was considered partially correct (a score of one) if it was within a range of 26 to 50 percent, plus or minus, of the actual figure listed in the Handbook.

The $(CE)_2$ students, on the question related to job salary, scored lower than the CWE program students or those in the THS random sample for all three jobs listed. On the question measuring knowledge of highest education or training required, the $(CE)_2$ students scored lower than the THS sample on all three jobs but higher than the CWE students on two of the three jobs. On the knowledge of special skills required in a job, the $(CE)_2$ students scored lower than the THS sample for five of the six skills listed and about the same as students in the CWE program. In general, none of the three groups had accurate knowledge of jobs and the $(CE)_2$ and CWE students were at approximately the same level (except for knowledge of starting monthly salaries where the CWE students seemed more knowledgeable). This is probably to be expected, since the CWE students work for money while those in $(CE)_2$ are not paid for their time at employer sites.

Two points should be kept in mind in interpreting these findings. First, no baseline data were collected in this area. Consequently, the midyear data are not growth data, but merely a measurement at one point in time. The second point has to do with the measurement itself. The questionnaire defines "career knowledge" as knowledge about salaries, educational requirements and job skills. Other questions about working conditions, life styles and potential job satisfaction might provide more valid and relevant information about career knowledge.

In describing factors and people influencing their decision about participating in $(CE)_2$, $(CE)_2$ students were influenced much more than either THS or CWE students by their parents, friends and counselors. Very little influence to avoid joining $(CE)_2$ was noticed by any of the three student groups, although in general a student's friends produced the most negative influence. Twenty-six percent of the THS students did not participate in $(CE)_2$ because of concerns about their future. However, concerns for their future influenced 93 percent of the $(CE)_2$ students to join the program.

Parent Opinion Survey

At the end of January, a Parent Opinion Survey was mailed to parents of all 40 students who were in the $(CE)_2$ program since October. Two telephone follow-ups made to encourage parents to return the surveys resulted in the return of 27 surveys (67.5 percent). A word of caution about response bias is appropriate here. Since parent names were included on the questionnaire, parents with negative feelings about $(CE)_2$ may have been reluctant to respond. Although no information was collected to confirm this, it should be kept in mind when interpreting the results of the Parent Opinion Survey.

Parent responses are grouped into four categories: parent rating of $(CE)_2$, impact of $(CE)_2$ on students, interaction between parents and $(CE)_2$, and parental description of students. Each of these categories is summarized below. A copy of the Parent Opinion Survey along with the percentage frequency distribution of responses is included in Appendix D.

Parent Rating of $(CE)_2$. In three groups of questions parents were asked to rate the $(CE)_2$ program. In the first group, they were asked to rate the $(CE)_2$ program in comparison to high school. They made the ratings on the basis of an overall comparison; the degree to which their son or daughter liked $(CE)_2$ over high school; the opportunity to learn about occupations; the opportunity to learn Basic Skills and Life Skills; and the degree to which their son or daughter was motivated by each program. For all five questions, the $(CE)_2$ program was rated higher than the high school program.

In a second group of questions dealing with student learning, parents were asked to rate the importance of 15 areas of student learning and then to rate the effectiveness of $(CE)_2$ in accomplishing learning in these areas. Parent ratings over all 15 areas were judged by the evaluation staff to be not meaningfully different between each area. The five areas judged most effectively treated by $(CE)_2$ are the following (in order of most effective, next most effective, and so on): "Be aware of more career opportunities," "Work with others," "Communicate with others in a mature way," "Perform specific occupational skills," and "Have a positive attitude toward work." Therefore, areas of occupational learning were seen as being most effectively achieved.

The five areas judged as less effectively treated by $(CE)_2$ are the following (in order of least effective, next least effective, and so on): "Be punctual and organize their time," "Prepare for future education," "Perform basic academic skills," "Make decisions and follow through," and "Evaluate their own work." Therefore, areas of self-management and academic performance were seen as being less effectively accomplished. It should be noted that the average rating even for the lowest area of accomplishment was a positive rating. The results of this question are presented in Table 8, page 47.

In a third group of questions parents were asked to rate the $(CE)_2$ program without reference to other programs. Parents listed the weaknesses and strengths of $(CE)_2$, what changes, if any, they would recommend in the program, the approach to learning used at $(CE)_2$, the effectiveness of the $(CE)_2$ staff, and business and community resources available through $(CE)_2$.

Many parents listed no weaknesses or recommended changes in regard to $(CE)_2$. Weaknesses and changes that were listed dealt mostly with the need for more student self-management or the structuring of $(CE)_2$ to teach self-management more effectively. Strengths of the program were listed as career development, student-staff relationships and effectiveness of the method of learning used. In addition, parents rated the program positively in terms of several other dimensions mentioned on the questionnaire.

In summary, the three groups of questions showed, with the few exceptions noted, a very positive rating for $(CE)_2$ by parents. They felt that $(CE)_2$ was better than the high school program for their son or daughter, that it was effective in important areas of learning and that it was a strong program of career education. The main problem parents saw in the program centered on student self-management and motivation.

Evaluation staff inferred a general rating of the program by parents from question 2, which asked parents, if they had to decide again, would they want their son or daughter to join the $(CE)_2$ program. Eighty-seven percent of the parents responded with yes or definitely yes.

Impact of $(CE)_2$ on Students. Six questions in the parent survey dealt with the impact of the $(CE)_2$ program on students. Most parents (82 percent) indicated that $(CE)_2$ had a positive effect on student selection of career plans. Ninety percent of the parents had noticed positive changes in their son or daughter that they thought were a result of the program; about the same number reported no negative changes as a result of the program. About half of the parents reported no specific problems encountered by their son or daughter in the program. Most problems mentioned dealt with student self-management. Staff were rated very high in helping with these problems. Parents also indicated that students received special knowledge and skills in the areas of career development and self-confidence.

In summary, parents indicated the major points of impact of the $(CE)_2$ program to be students' increased interpersonal skills and maturity and the career knowledge and experience gained. Primary problems dealt with the area of student self-management.

Interaction Between Parents and $(CE)_2$. Parents indicated that they were talking more with their son or daughter about the $(CE)_2$ program than they did about the regular school program. Generally, parents were satisfied with the amount of information they received about their son or daughter's progress in the program and with the overall relationship they had with the $(CE)_2$ staff.

Parental Description of Students. Three questions evoked parents' descriptions of students who were or should be in the $(CE)_2$ program. When asked what they thought of the occupational plans of their son or daughter in $(CE)_2$, 68 percent of the parents said there weren't any firm plans; 29 percent of the parents said the plans seemed good; 4 percent said the plans should be changed; and 4 percent said they hadn't discussed the plans with their son or daughter.

When asked what their son or daughter would be doing a year after high school, 38 percent said working; 29 percent said attending some kind of college; 25 percent said going to a business or trade school; and 8 percent said joining the military.

When asked what kind of student they felt would benefit most from the $(CE)_2$ program, 36 percent said students not happy in a regular high school; 28 percent said all kinds of students; 16 percent said students unsure of themselves and in need of individual attention; and 16 percent said self-motivated students who wanted to learn.

General Findings of the Parent Opinion Survey. All parents who responded to the Parent Opinion Survey rated the $(CE)_2$ program very positively. They felt that the main strength of $(CE)_2$ was in teaching career skills and that the main weaknesses of the program were in the areas of student self-management and student academic development.

Employer Opinion Survey

The Employer Opinion Survey was mailed to 90 employers participating in the $(CE)_2$ program. Employer instructors who worked most closely with $(CE)_2$ students were asked to complete the opinion survey. Follow-up phone calls were made to encourage employers to return the survey. Sixty surveys were returned. A copy of the Employer Opinion Survey with tabulated responses is included in Appendix E.

The majority of the 60 employer instructors who responded to the survey were employed by relatively small companies; two-thirds reported there were 25 or fewer employees at their site. The average length of time these employer sites have participated in the program is 9.5 months, indicating that many of them had students on their sites last year.

Personal contact with $(CE)_2$ staff or students was the most commonly reported way employer instructors became involved with the program. Several indicated they had taken the initiative and asked to be involved in $(CE)_2$. The reason for their involvement was most often stated to be their perception of $(CE)_2$ as a worthwhile program and their conviction that they could be of help to students. Six employer instructors said that they became involved because they felt that participation would be of mutual student/industry

benefit. Nearly all respondents indicated their intention of continuing to participate in $(CE)_2$, and all who responded said they would recommend to other potential employer/resource persons that they also become involved.

Concerning the impact of $(CE)_2$ on the quality and quantity of work performed by regular employees and on company hiring and training practices, 54 percent of those responding said they saw no impact on their site. Thirty-seven percent felt that experience with $(CE)_2$ had a positive impact on company training practices. According to 30 percent of the respondents, $(CE)_2$ had a positive impact on the amount of work performed by regular employees. This is especially interesting in light of the fact that 80 percent of those responding indicated that their site could handle only two or less students and the two most frequently cited reasons for limiting the number of students were space/equipment limitation and the possibility that the presence of students "might disrupt other workers."

Several questions dealt with the issue of what actually happens to students while they are on the employer sites. An average of about six hours per week was reported spent with students on exploration level placements and learning level placements. In response to a list of possible supportive services, the most frequently checked by employers as those provided at employer sites were talking about job opportunities, talking about activities occurring at the site, evaluating individual student's assignments, supervising students in performing specific job-related tasks at their sites and helping students plan assignments. In response to a question of what students can learn on job sites that they could not learn in a regular classroom, over 50 percent of the respondents cited the students' opportunity to gain first-hand knowledge of the demands of a realistic situation.

No discipline problems with students on their site had been encountered by more than half of those responding. Thirty-one percent said that if discipline problems did (or should) occur, they handled (or would handle) them themselves. Most of the employer instructors felt that $(CE)_2$ students demonstrated a positive interest both in the program and in their particular employer site. About half of them said the presence of $(CE)_2$ students at their sites had produced a positive reaction from other employees, benefiting them in such ways as increasing their awareness of youth or increasing their interest in their own work.

Most employer instructors felt that $(CE)_2$ staff had provided them with enough information to help them direct student activities at their site. But they did not receive adequate feedback on what happens to students after they leave the employer site or on the effectiveness of their work with students. The majority reported the frequency of their communication with $(CE)_2$ staff to be "once or twice a month" or less.

The most frequently cited weaknesses of the program were students' inability to handle the freedom of $(CE)_2$ and "problems in organization." On the other hand, the most frequently cited strengths of the program were "$(CE)_2$ personnel/organization," helping students learn about careers and helping them see what real-life situations are like.

Along with parents, students and $(CE)_2$ staff, employer instructors were asked to rate the perceived importance and effectiveness of various learning outcomes. Nearly all the learning outcomes listed were rated by employer instructors as important or highly important. Two outcomes rated somewhat lower than the others were the ability to "perform basic academic skills" and the need to "prepare for further education." Employer ratings of program effectiveness were above average for all areas. Those rated somewhat less effective than others were students' learning to "be punctual and organize their time," "evaluate their own work," "perform basic academic skills," "think through and solve problems," and "prepare for further education."

Visitor Questionnaire

The Visitor Questionnaire was designed to be filled out by all individuals who visited $(CE)_2$ during the year. Due to oversight, however, only a small number of visitors were asked to fill out the questionnaire. Questionnaires from two categories of visitors are summarized here: National School Board Association (NSBA) Executive Committee members who visited $(CE)_2$ as a group in conjunction with an NSBA meeting in Portland, October 12, 1973, and local visitors composed of teachers and administrators (50 percent) and other community people (50 percent).

All nine NSBA committee members completing the questionnaire reported positive or very positive impressions of the $(CE)_2$ program. Five of the 17 local visitors reported some reservations. Both groups agreed that the major strengths of the $(CE)_2$ program were its highly motivated staff and its orientation to the real world. Both groups agreed that the major weakness of the program was its cost. The local group was also concerned about the program's ability to deal with the college- and profession-bound student. They indicated that more able and highly motivated students were needed to really test the program.

When asked what parts of the total project they would like to see tried in other school districts, about half of each group expressed interest in the entire $(CE)_2$ system. Interest was fairly evenly spread over the other components of the program, with only two people (one from each group) expressing interest in the $(CE)_2$ record system. An insufficient number of questionnaires were collected during the second semester. Consequently, further analysis was not performed.

Project Director Questionnaire

The Project Director Questionnaire was designed to obtain common program data for the four EBCE programs. Responses on this questionnaire synthesize the observations of both the NWREL career education program director and the $(CE)_2$ project director with some data being supplied by the evaluation staff. The questionnaire summarizes major aspects of the entire program: staff, employer contacts, student selection, credit assignments, employers and advisory board. These areas are summarized below. The completed Project Director Questionnaire is contained in Appendix F.*

The questionnaire indicates the frequency of $(CE)_2$ staff contacts with employers to be "about once or twice a week" during exploration level experiences and "about once every two weeks" during learning level experiences. The student/employer relationship is documented on an employer-signed time card; a student activity log (journal); advance employer approval of project assignments and final employer approval of student project work for credit; and periodic employer reviews of student site performance. Students average spending 38 percent of their time on employer sites.

With reference to student selection, the project director reported that although most volunteers have been accepted, "we have attempted to increase the number of 'self-directed' students in relation to the total student body." This year's planned enrollment of 50 students was met.

Decisions regarding assignment of credit for students' program work are made by designated program personnel, who "translate program experiences into recommendations for credits; no credit awards are made directly." Students receive diplomas from their local high school as well as certificates from $(CE)_2$. No problems have been encountered to date in getting other institutions to recognize the credits and diploma granted by the $(CE)_2$ program.

Of the students who have left the program since September 1973, five of the nine leaving voluntarily did so because they wanted to return to high school. Only two students have been involuntarily terminated during that period.

The number of employer resource persons accepting students for job site experiences was listed as 74 for exploration levels and 32 for learning levels. Only three students have been dropped from work sites. Students at job sites do not perform tasks that would otherwise be assigned to a regular employee and are not paid for work done as part of the program. However, 20 to 25 students have been hired by employers participating in the program for work outside of program hours.

* The Project Director Questionnaire is based on data from the first semester only.

Comparison of Student Learning Outcomes by Students, Parents, Staff and Employers

A comparison of ratings by students, parents, staff and employers regarding their perception of the importance and effectiveness of 15 student learning outcomes is contained in Table 8. The center of each horizontal line shown in the table indicates the mean (average) rating for that group on the particular student learning outcome. The length of the line indicates the amount of variation in responses from a given group to a particular outcome and includes the ratings given by two-thirds of each group.

Multiple comparisons are possible. For a given learning outcome perceived importance may be compared among students, parents, staff and employers. The length of the line indicates how much agreement or disagreement there was within a particular group in rating a given outcome. For a single outcome, how important a given group thought that outcome was and how effectively they felt the program was accomplishing that outcome also can be compared. Finally, the outcomes that a single group of raters considered highest or lowest in importance and highest or lowest in effectiveness can be compared. (For further information, see Table 5, page 22.)

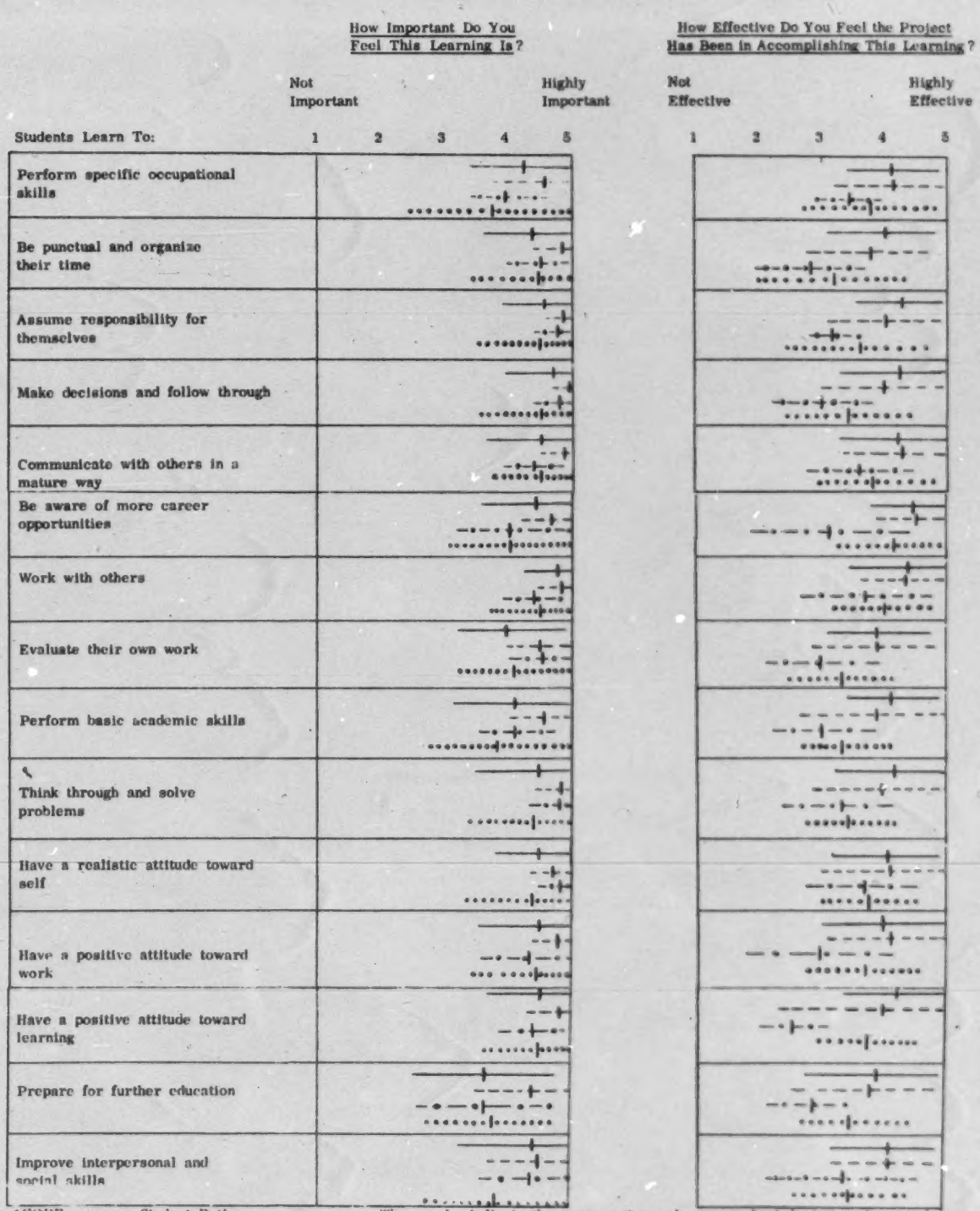
One caution should be kept in mind. Even though an identical rating format was used on the opinion surveys for students, parents, staff and employers, it cannot be assumed that the same concept of "highly important" or "highly effective" was shared by each group or even by members within the same group. Thus the concept of "highly effective" may have meant something different with staff than with students.

Each of the 15 student learning outcomes was given an average rating of 3 or higher (on a 5-point scale) by students, staff, parents and employers, thus indicating a support for the goals of the program. Learning outcomes considered especially important by all four groups included: assuming responsibility for themselves, making decisions and following through, communicating with others in a mature way, working with others, thinking through and solving problems, having a realistic attitude toward self, having a positive attitude toward work and learning, and improving interpersonal and social skills.

The student, staff, parent and employer groups all gave an average rating of 3 or higher (on a 5-point scale) for effectiveness for 11 of 15 student learning outcomes listed. Student outcomes rated most effective were performing specific occupational skills, assuming responsibility for themselves, communicating with others in a mature way, working with others and having a realistic attitude toward self.

Table 8

A SUMMARY OF RATINGS ON FIFTEEN STUDENT LEARNINGS
BY STUDENTS, PARENTS, STAFF AND EMPLOYERS*


How Important Do You Feel This Learning Is?
Not Important
Highly Important
How Effective Do You Feel the Project Has Been in Accomplishing This Learning?
Not Effective
Highly Effective
Students Learn To:
1 2 3 4 5
Perform specific occupational skills
Be punctual and organize their time
Assume responsibility for themselves
Make decisions and follow through
Communicate with others in a mature way
Be aware of more career opportunities
Work with others
Evaluate their own work
Perform basic academic skills
Think through and solve problems
Have a realistic attitude toward self
Have a positive attitude toward work
Have a positive attitude toward learning
Prepare for further education
Improve interpersonal and social skills

*CODE: ——— Student Ratings
------ Parent Ratings
-·-·-· Staff Ratings
..... Employer Ratings

The graphs indicate the mean rating and one standard deviation above and below the mean. The small vertical lines shown as tick marks on the graph represent the mean ratings. The length of each horizontal line represents two-thirds of the responses by that group.

FINDINGS FROM UNIQUE INSTRUMENTS

Comprehensive Test of Basic Skills

The Comprehensive Test of Basic Skills (CTBS), Level 4, Form R, was administered to $(CE)_2$ students and to a random sample of Tigard High School (THS) students in the early fall of 1973 and again in the spring of 1974. Because of questions concerning the representativeness of the THS seniors in the sample (see Interim Report*) the only comparison students posttested were the THS juniors. Raw score class means and standard deviations on the pre- and posttests for the juniors from $(CE)_2$ and THS and the seniors from $(CE)_2$ are included in Table 9.

Table 9

CTBS RESULTS

CTBS Subscore	Groups Tested									
	Tigard Juniors N=25				$(CE)_2$ Juniors N=10				$(CE)_2$ Seniors N=23			
	Pre		Post		Pre		Post		Pre		Post	
	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S
Reading	64.5	11.4	65.9	12.3	52.4	14.6	52.3	19.3	52.7	13.1	56.7	13.2
Language	62.6	9.6	61.4	11.9	50.0	14.1	54.2	14.6	51.4	14.0	53.2	15.0
Arithmetic	69.4	16.7	67.0	18.6	54.4	20.0	60.0	23.7	47.7	16.0	56.8	17.0
Study Skills	33.0	6.6	34.6	6.8	23.0	11.0	30.3	11.8	26.3	9.2	30.0	7.5

A series of four t tests for matched data was run on the combined $(CE)_2$ student CTBS data. A summary of this analysis is included in Table 10.

Table 10

$(CE)_2$ CTBS PRETEST--POSTTEST DIFFERENCES

Subtest	Mean		Gain	t Value
	Pretest	Posttest		
Reading	52.6	55.3	2.8	2.37*
Language	51.0	53.5	2.5	1.32
Arithmetic	49.7	57.8	8.1	3.98**
Study Skills	25.3	30.1	4.8	2.90**

* $p < .05$
** $p < .01$

* Experience-Based Career Education FY 74 Interim Evaluation Report, NWREL, Portland, Oregon: March 1974, pp. 17-18.

It is noted that statistically significant growth occurred on all CTBS subtests except Language. This is especially significant when compared to $(CE)_2$ student growth in Basic Skills during the first year of program activities in 1972-73. During that year, no growth in this area was detected by the CTBS.

To compare $(CE)_2$ student growth in Basic Skills with that of the comparison groups, a univariate analysis of covariance was run on each of the CTBS subscores using the JOHNEYX program.* Pretest scores were used as the covariates. The analysis was run comparing THS juniors both with the $(CE)_2$ juniors and with the total $(CE)_2$ student population. No significant differences were found in either analysis. In other words, the $(CE)_2$ students gained as much in Basic Skills as did the THS students.

Further analysis, using JOHNEYX, was undertaken to see if differential growth was exhibited in arithmetic and/or reading by those $(CE)_2$ students who received tutoring in either or both of these areas. The analysis of covariance indicated no significant differences. However, the number of hours of tutoring or specific nature of the individualized instruction were not accounted for in the analysis.

Newspaper Reading Exercise

A sample of eight $(CE)_2$ students scoring below the ninth grade level on the CTBS Reading pretest were administered the Newspaper Reading Exercise in January 1974 and again in May 1974. The average score in January was 5.50 with a standard deviation of 1.92 while the mean and standard deviation in May were 11.25 and 3.28 respectively. A t test for correlated data was run and indicated that this difference was significant at the .01 level. Limitations in the instrument and its administration are discussed on page 99.

Writing Sample

To assess changes in writing skills of the $(CE)_2$ students, a writing test was administered to the $(CE)_2$ and CWE students during the first and last six weeks of the year. Two outside high school English teachers evaluated the samples in the blind (not knowing to which group the student belonged nor knowing whether the sample was from pretest or posttest). Ten criteria were used to judge each sample. The inter-rater reliability was .485. Because of confused test administration instructions, the results from the CWE group were not valid for comparative purposes.

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* JOHNEYX is a FORTRAN program that checks the data for homogeneity of regression lines before proceeding to do the analysis of covariance if the regression lines are homogeneous, or the Johnson-Neyman Technique if they are not.

$(CE)_2$ student pretest and posttest means and standard deviations for each criterion measure are summarized in Table 11. While positive change is noted in scores on eight of the ten scales, none was significant when tested with a t test for correlated data.

Table 11

PRETEST AND POSTTEST MEANS* AND STANDARD DEVIATIONS OF $(CE)_2$ STUDENTS ON THE WRITING SAMPLE (N=23)

Writing Scale		Pretest	Posttest	t
Style	$\bar{X}$	2.69	2.86	1.73
	S	.55	.60	
Logical Development	$\bar{X}$	2.76	3.10	1.73
	S	.87	.86	
Clarity	$\bar{X}$	2.73	2.84	.60
	S	.67	.74	
Pronouns	$\bar{X}$	2.60	2.34	-1.01
	S	.87	1.03	
Subject-Verb Agreement	$\bar{X}$	3.04	3.34	1.66
	S	.81	.46	
Capitalization	$\bar{X}$	2.82	2.84	.14
	S	.92	1.05	
Spelling	$\bar{X}$	2.71	2.82	.67
	S	.86	.87	
Legibility	$\bar{X}$	3.02	3.06	.21
	S	.91	.85	
Punctuation	$\bar{X}$	2.82	2.58	-.71
	S	.77	1.04	
Tone	$\bar{X}$	3.65	3.67	.06
	S	.69	1.11	

* Maximum score possible on any variable is five.

Semantic Differential

A semantic differential, designed to measure attitudes toward the concepts of Me, School, Adults, Learning, Work and Decision Making, was administered to $(CE)_2$ students in the fall, at midyear and again in May. Figure 2 displays a graphic summary of the semantic differential data. As can be seen, students demonstrated a positive change in all six areas during the first half of the year. From midyear to May, however, the rate of change either decreased or a slight drop was indicated.

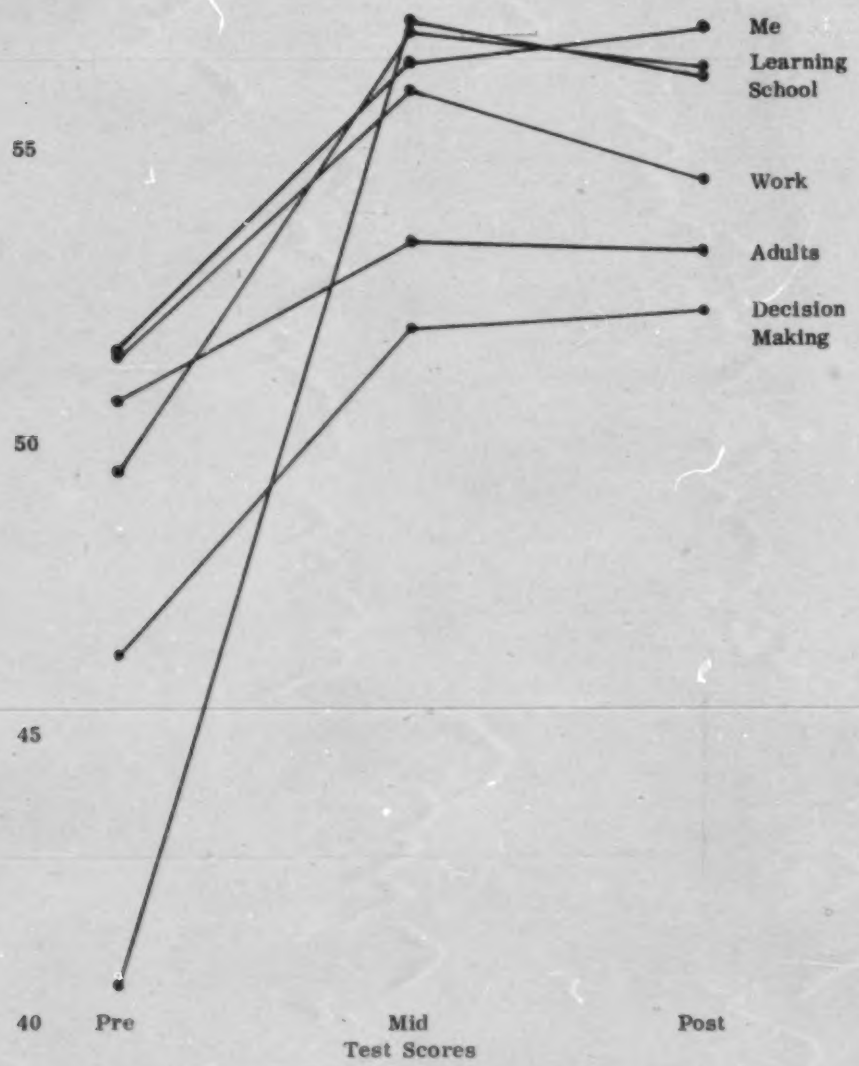

Fig. 2. Pretest, midyear and posttest means of the $(CE)_2$ students on the Semantic Differential scales.

A multivariate analysis of variance using pre-, midyear and posttest scores as repeated measures was computed.* A linear test (using orthogonal polynomials) was significant for the concepts of Me, School, Learning and Decision Making in a positive direction. However, when the step-down F ratios were examined only the concepts of Me and School were significant. This resulted from the high correlation of the Me and Learning scales and the School and Decision Making scales. The concept of School also had a significant quadratic effect indicative of a midyear to posttest score loss.

Psychosocial Maturity Scale

The Psychosocial Maturity Scale was administered to all the $(CE)_2$ and CWE students and to samples from THS and OSC in the fall. In January, a random half of the above groups and all the CWE students completed the instrument again. The remaining students responded to the instrument in May.

Pretest and midyear group means and standard deviations from those students tested at midyear are included in Table 12. Pretest and posttest statistics for the remaining students are displayed in Table 13. Pretest means vary slightly on each scale from table to table due to sampling and measurement error. The results for the $(CE)_2$ students are displayed graphically in Figure 3. The general pattern of change on the PSM follows that noted on the Semantic Differential. The rather dramatic positive change evidenced during the first semester was in part tempered by a reduction or negative change in the second semester.

* Version 4 of "Multivariance-Univariate and Multivariate Analysis of Variance and Covariance: A Fortran IV Program" was used for the multivariate analyses in this report.

Table 12

PRETEST AND MIDYEAR MEANS AND STANDARD DEVIATIONS
FOR THE PSYCHOSOCIAL MATURITY SCALE
FOR $(CE)_2$ AND THE COMPARISON GROUPS

Scale		Groups Compared							
		$(CE)_2$ N=16		CWE N=12		OSC N=46		THS N=17	
		Pre	Midyear	Pre	Midyear	Pre	Midyear	Pre	Midyear
Work	$\bar{X}$	24.6	26.9	25.9	30.2	28.3	30.4	27.4	31.2
	S	5.16	4.77	5.25	5.46	4.47	4.39	5.47	3.92
Self-Reliance	$\bar{X}$	28.9	32.0	27.3	33.2	30.6	32.3	29.9	34.2
	S	4.42	4.63	4.94	5.27	4.43	4.13	5.48	3.90
Identity	$\bar{X}$	27.2	30.3	25.7	28.6	30.2	31.6	30.2	33.7
	S	5.10	5.99	3.58	4.72	4.33	4.48	5.09	4.69
Communication	$\bar{X}$	22.8	24.9	23.7	26.7	25.1	27.3	25.3	29.8
	S	3.19	5.54	5.84	5.77	3.92	4.88	5.46	6.42
Role	$\bar{X}$	30.9	33.6	29.0	32.5	33.1	33.6	32.6	35.6
	S	4.73	3.94	4.94	4.01	4.55	3.93	5.11	2.96
Trust	$\bar{X}$	25.1	28.8	25.3	30.5	28.0	28.8	28.3	30.9
	S	3.22	2.82	4.03	3.53	4.07	4.78	4.16	4.92
Social Commitment	$\bar{X}$	31.2	35.4	30.3	33.8	32.1	33.8	31.1	36.5
	S	3.92	4.27	4.89	4.54	4.58	5.30	4.77	4.45
Tolerance	$\bar{X}$	29.9	38.1	28.1	35.8	30.2	35.5	29.6	37.4
	S	3.79	4.46	3.58	5.61	2.83	5.25	3.94	5.71
Change	$\bar{X}$	29.4	35.2	27.9	34.2	30.4	34.4	29.3	34.6
	S	3.68	4.90	3.45	6.85	3.06	5.34	4.06	5.99
Social Desirability	$\bar{X}$	22.1	19.9	21.3	20.4	22.1	21.1	22.8	21.17
	S	2.82	3.36	2.46	2.45	3.05	3.47	2.66	3.04

Table 13

PRETEST AND POSTTEST MEANS AND STANDARD DEVIATIONS FOR THE PSYCHOSOCIAL MATURITY SCALE FOR $(CE)_2$ AND THE COMPARISON GROUPS

Scale		Groups Compared					
		$(CE)_2$ N=14		OSC N=30		THS N=18	
		Pre	Post	Pre	Post	Pre	Post
Work	$\bar{X}$	23.5	28.0	28.7	31.6	27.8	30.7
	S	5.28	4.98	4.56	4.79	5.80	4.85
Self-Reliance	$\bar{X}$	26.5	29.6	30.7	32.3	30.1	32.7
	S	4.29	4.55	4.26	4.75	4.70	4.73
Identity	$\bar{X}$	26.7	30.2	30.6	32.6	29.6	32.1
	S	4.52	4.29	3.98	4.47	5.44	5.93
Communi-	$\bar{X}$	23.4	26.2	25.8	28.0	26.7	27.2
cation	S	3.77	4.83	5.06	4.93	4.67	4.97
Role	$\bar{X}$	28.3	30.6	31.7	33.9	31.8	33.8
	S	3.66	5.10	5.12	3.64	4.99	3.76
Trust	$\bar{X}$	23.4	28.2	27.5	29.1	27.1	30.2
	S	4.73	4.87	4.73	3.91	5.59	6.10
Social	$\bar{X}$	31.3	32.7	32.3	34.0	33.5	36.3
Commitment	S	6.60	5.03	4.52	5.64	4.69	3.56
Tolerance	$\bar{X}$	34.3	34.8	36.1	37.6	36.7	38.0
	S	5.07	5.79	5.14	5.06	5.02	3.32
Change	$\bar{X}$	31.4	31.2	30.0	35.1	32.5	33.7
	S	4.55	4.73	4.50	5.62	4.68	4.01
Social	$\bar{X}$	21.8	22.8	20.8	21.6	20.9	20.1
Desirability	S	3.30	3.84	2.98	3.80	3.23	3.18

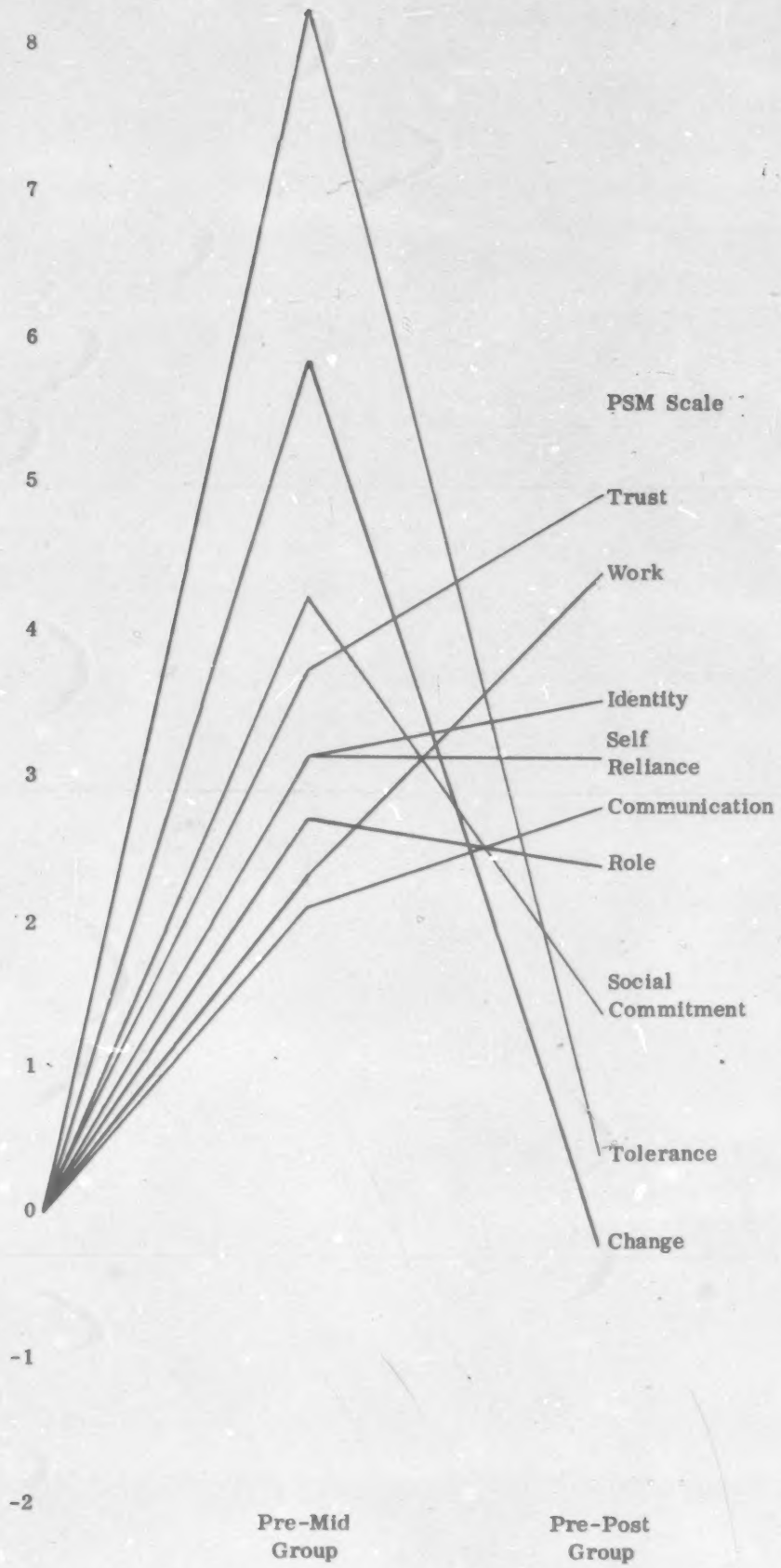

Fig. 3. $(CE)_2$ midyear and posttest mean score changes on the PSM.

A two-way multivariate analysis of variance was run. Factor one consisted of the pre-, midyear and posttest PSM scores. The second factor was group: $(CE)_2$, THS or OSC. (The CWE sample was not included since there were no posttest scores on this group.)

Orthogonal polynomials were used to test the first factor. All nine subscales had significant univariate effects on the linear test. However, only the Work, Trust and Tolerance subscales were significant on a step-down F ratio. Since the subscales were examined in the same order as they appear in Table 12, these results indicate a high correlation betwen subscales. The subscale Work is especially highly correlated with all other subscales except Trust, Tolerance and Change. The Self-Reliance, Role, Tolerance and Change subscales also had significant univariate effects on the quadratic test, with only the Self-Reliance subscale having a significant step-down F ratio.

On the second factor, the THS sample was significantly higher than the $(CE)_2$ sample on the univariate tests of the Communication, Trust and Social Commitment subscales over the entire year. However, only the Change subscale had significant unique variation on the step-down F ratio. The OSC sample was significantly higher than the $(CE)_2$ sample on the univariate tests of all subscales except for Social Commitment and Tolerance. However, only the Work, Social Commitment and Change subscales had significantly unique variances on the step-down F ratios. There were also no significant interaction effects, indicating that although the $(CE)_2$ group had lower pretest scores the rate of change over the course of the entire year was basically the same for all groups. Analysis of total change at the summary scale level was undertaken for the $(CE)_2$ students. The analysis, three t tests for correlated data, is summarized in Table 14.

Table 14

$(CE)_2$ PRETEST--POSTTEST RESULTS ON THE PSM SUMMARY SCALES (N=14)

Summary Scale	Mean		Gain	t
	Pretest	Posttest		
Individual Adequacy	76.9	87.8	10.9	4.38*
Communication	75.1	85.1	10.0	3.66*
Social Adequacy	97.1	98.9	1.8	.44

* $p < .01$

$(CE)_2$ students made substantial growth on both the Individual Adequacy and the Communication scales, but did not significantly increase their score on the Social Adequacy scale.

Career Maturity Inventory

The Career Maturity Inventory was administered to all groups ($(CE)_2$, CWE, THS and OSC) in the fall. In January, the Attitude Scale and three of the Competence Tests (Knowing Self, Knowing Job and Looking Ahead) were administered to a random half of $(CE)_2$, THS and OSC. The CWE students all were administered the CMI Attitude Scale only at midyear because of scheduling difficulties. The data from these testing sessions are summarized in Table 15. The table shows very little change between pretest and midyear means for any of the groups.

Table 15

PRETEST AND MIDYEAR MEANS AND STANDARD DEVIATIONS ON THE CAREER MATURITY INVENTORY SUBSCALES FOR $(CE)_2$ AND THE COMPARISON GROUPS

CMI Subscales		Groups Compared							
		$(CE)_2$ N=19		CWE N=15		OSC N=46		THS N=18	
		Pre	Midyear	Pre	Midyear	Pre	Midyear	Pre	Midyear
Attitude	$\bar{X}$	32.7	33.7	33.3	33.5	35.3	36.2	36.1	36.7
	S	4.67	6.20	5.45	5.85	5.21	6.21	4.92	5.09
Knowing Self	$\bar{X}$	10.2	9.74	13.1	--	12.4	12.9	13.3	12.8
	S	3.88	4.23	2.95	--	3.89	4.23	3.74	4.58
Knowing Job	$\bar{X}$	12.8	13.5	15.1	--	15.7	15.0	16.6	17.9
	S	5.49	5.15	2.37	--	3.20	3.70	1.89	2.32
Looking Ahead	$\bar{X}$	10.3	9.63	10.8	--	12.8	13.1	13.5	14.8
	S	6.01	5.40	2.98	--	3.99	4.34	3.55	3.98

Only the Attitude Subscale was administered to the remaining random half of students in May because of the evaluation team's concerns about the lack of validity and relevance for the competency sections. The pretest and posttest means for the end of year testing groups are summarized in Table 16.

Table 16

PRETEST AND POSTTEST MEANS AND STANDARD DEVIATIONS ON THE CAREER MATURITY INVENTORY ATTITUDE SCALE FOR $(CE)_2$ AND THE COMPARISON GROUPS

Scale		Groups Compared					
		$(CE)_2$ N=15		THS N=18		OSC N=30	
		Pre	Post	Pre	Post	Pre	Post
CMI Attitude	$\bar{X}$	32.1	36.4	36.7	36.4	36.1	38.3
	S	7.87	4.22	4.32	7.63	6.27	4.93

A t test for correlated data run on the $(CE)_2$ students' scores yielded a t of 2.71 which is significant beyond the .02 level, indicating a positive growth as measured by this instrument.

An analysis of covariance (with the pretest score as the covariate) run on the data indicates that differential growth among groups is not significant.

Attendance Data

File data indicate that $(CE)_2$ students, while attending high school at THS during the 1972-73 school year (1971-72 for seniors who have been in $(CE)_2$ for two years), were absent an average of 16.4 days or 9.25 percent of the time. During the past year at $(CE)_2$ they were absent an average of 12.3 days or 8.9 percent. A t test for correlated data yields a t of -1.44 and a probability of .16. This year's attendance rate is not significantly different from that of last year. This continues the trend noted in the first semester where the attendance of $(CE)_2$ students had not changed from the first semester of their previous year at the high school.

Attendance data (1972-73 school year) from a random sample of students from THS indicate that they were absent on the average 11.2 days or 6.3 percent of the time. (There were 177 possible school days for the THS students and an average of 138 for $(CE)_2$ students, since some students were in the program for only part of the year.) A t test comparing the percent of days absent by the $(CE)_2$ and THS students yielded a t of 2.32 which is significant at the .05 level. The $(CE)_2$ students, then, are absent more often than a sample of THS students.

Comparison of $(CE)_2$ attendance data with that from the OSC was undertaken for the first semester only (due to the availability of data). $(CE)_2$ absenteeism for the first semester averaged 7.5 days compared to 7.0 for the OSC students. No statistical tests were run on these data.

$(CE)_2$ Staff Questionnaire

The Staff Questionnaire was completed anonymously by each of the $(CE)_2$ staff members in late February. Ratings by staff of the importance and effectiveness of 12 student learning strategies and 15 student learning outcomes were collected. With the exception of student journals and employer seminars, the average rating of all learning strategies was high and staff agreed generally on the relative importance of each learning activity. (The one exception to this was for tutors, where there was rather wide disagreement.)

For all learning strategies except journals, staff rated "effectiveness" substantially lower than their respective "importance;" for journals, importance and effectiveness scored equally low. Three of the learning strategies rated high in importance but relatively low in effective implementation were (1) learning level processes, (2) the student accountability system and (3) group activities. In rating student learning outcomes, staff also tended to mark them higher in importance than effectiveness. In general, staff rating of the effectiveness of learning strategies was also lower than the ratings by students. This possibly reflects the staff's higher expectations for each learning strategy and their keen awareness of problems involved in implementing each learning strategy.

On several open-ended questions regarding factors facilitating or hindering success of the program, staff capabilities were frequently cited. For example, the staff's concern for the students was seen as contributing to the success of the program; lack of staff unity was perceived as limiting the program's success. Five of the staff thought the CTBS provided useful assessment information. Social skills were seen by five of the staff as the area of greatest student growth. Two of the staff saw the least growth being made in the area of systematic study of career opportunities and work trends. The major changes suggested by the staff were more selective student recruitment in the future and a redefinition of staff roles needed in the program.

A copy of the Staff Questionnaire and a tabulation of responses is included in Appendix H.

Student Staffing

Purposes and Procedures. During the summer of 1973, $(CE)_2$ staff and an outside consultant* designed a plan whereby each $(CE)_2$ student would be discussed systematically by staff throughout the 1973-74 school year. This

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* Dr. Michael Ward, a practicing clinical psychologist from Berkeley, California, has had extensive experience in counseling and has worked with $(CE)_2$ staff over the past year in refining the guidance component.

system, referred to as "student staffing," was developed to (1) improve communications among the $(CE)_2$ staff regarding the problems and behaviors of individual students; (2) identify ways to help students in specific problem areas; and (3) provide a systematic basis for evaluating some of the nonacademic outcomes that $(CE)_2$ is designed to help students achieve.

At each weekly staffing session, 15 to 20 students* were discussed for several minutes each in terms of four topics: responsibility, cooperation, personal interactions and enthusiasm. Staff comments were confined usually to behavioral observations of a student rather than general feelings about the student or nonspecific examples. The student coordinator recorded staff observations on each student, together with the agreed-upon course of action to be followed.

In the opinion of the $(CE)_2$ staff and evaluators, the staffing procedures were considered successful in terms of improved interstaff communications and providing students assistance in problem areas. Because of $(CE)_2$ staff role delineation, each student had direct contact with at least four staff members. Some of these staff observed the student primarily at an employer site; others observed the student only at the learning center. Since responsibility for counseling students is spread across all staff, it was essential that each staff member have a clear idea of how a student was progressing in all phases of the project. Student staffing sessions also enabled each staff member to learn how others respond to a given student under certain circumstances, thus reducing opportunities for students playing one staff member against another. Also, because $(CE)_2$ staff are interested in all phases of a student's development, not just his or her academic and career knowledge, it was essential that staff share insights into each student's interests, attitudes and concerns in order that each may help students in specific problem areas. Such insights allowed staff members to place students at appropriate employer sites, develop meaningful projects and generally be attentive to their individual needs.

The third purpose for student staffing--evaluating nonacademic outcomes--has been difficult to operationalize. Staff agreed that standardized tests and paper and pencil questionnaires do not adequately assess nonacademic behavior changes of students. However, few established research techniques exist for using systematic staff observations for documenting and evaluating group student growth. This then became the challenge of using student staffing in $(CE)_2$ for evaluation purposes.

Reliability of Observations. To assess the reliability of student staffing records, a member of the evaluation staff observed six staffing sessions during the year. Independently of the student coordinator he recorded observable behaviors described by the staff and then compared his notes with those of the student coordinator.

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* Students needing special attention are discussed separately as "emergencies."

An interrecorder agreement rate of 68 percent was reached in October and an agreement rate of 76 percent was achieved in January. October comparisons involved notes on 26 students and the January comparisons involved 9 students. No cases were found of direct contradiction between the two recorders. The only discrepancies occurred where one or the other recorder wrote down a staff comment not recorded by the other. New guidelines were established in February to clarify which behaviors the staff members desired to be recorded.

Analysis of Staffing Records. For each of the $(CE)_2$ students in the project since September, a summary sheet of student behaviors, consolidating behaviors recorded weekly by the student coordinator throughout the year, was prepared separately by the evaluation staff. Of the 37 students remaining in the project since September, 6 were systematically discussed 5 times during the year, 18 were discussed 6 times, 11 were discussed 7 times and 2 were discussed 8 times. Of the 4 behavior categories being recorded, over 70 percent of the staff-recorded observations of students were classified by the evaluation staff as being in the areas of cooperation or responsibility. The remaining behaviors dealt with adult or peer interactions and with manifestations of student enthusiasm.

In addition to categorizing observations by type of behavior, the evaluation staff was also interested in identifying behavioral changes noted. Three sources were used for identifying these changes. In some cases the syntax of the recorded behavior indicated the change; for example, a staff member might state that a particular student was now less belligerent in his conversations with staff. In addition, one section of the Student Staffing Record, filled out by the student coordinator, was specifically designed for recording behavior changes. Finally, the evaluation staff compiled a list of each student's behaviors discussed in staffing, making comparisons over time.

In reviewing the student staffing notes over the year for each student, the evaluation team looked for patterns of change contained in the recordings. Since various staff members observed and reported on students from different perspectives and since the students themselves sometimes varied from day to day, the summary judgments made by the evaluation team must be regarded as subjective. During many of the staffing sessions no systematic attempt was made to review some of the earlier comments made by the staff about a particular student. As a result, no indication exists, in many cases, as to whether a change has occurred in a particular student since the latter sessions often covered different aspects of the student's behavior than were reported in earlier sessions.

A review of the recorded behaviors classified as dealing with responsibility of each of the 37 students led the evaluators to judge that 12 students had demonstrated a pattern of substantial positive gain in assuming responsibility

for their learning, 6 had indicated a decrease in this behavior and insufficient data existed to form a clear pattern for the remaining 19 students. Using a five-point behavior rating scale for each of the four categories of interest, in June the evaluation team asked the student coordinator to rank each student as above average, average or below average on the four behaviors of responsibility, cooperation, student and adult interactions, and student enthusiasm based upon the student's performance during the first month of the school year. Of the 12 students judged by the evaluation team as having demonstrated substantial positive gain in assuming responsibility, 4 were considered above average in responsibility at the beginning of the year (a rating of four or five on the five-point scale), 6 were rated initially as average in responsibility (a rating of three) and 2 were rated as below average in responsibility (a rating of one or two). In summary, the ability to demonstrate growth in responsibility in $(CE)_2$ does not seem to be restricted to certain levels of students' initial performance.

Based upon the student staffing records, 8 of the 37 students were judged as having demonstrated substantial positive gain in cooperating with the project staff, 2 had a decrease in this behavior and insufficient data existed to allow a judgment on the remaining 27 students. Of the 8 students showing gain in cooperation, 1 was rated as above average in this area at the beginning of the school year, 5 as average and 2 as below average.

In terms of improving in interpersonal communications, the data supported the view that seven students made substantial gain and one, a decrease.

Although the concept of enthusiasm was the most difficult of the four to identify in behavioral terms, the student staffing documents suggested that seven students made substantial gain and two students, a decrease. Of the students showing substantial gain in interpersonal communications and in enthusiasm, all were rated as average or below average at the beginning of the school year.

Interpretation by the evaluators of student gains in responsibility, cooperation, interaction and enthusiasm (based on student staffing documentation) appears conservative but basically consistent with the pre- and postratings made by the student coordinator (see page 29 of this report). The student coordinator's ratings indicated a gain by 14 students in responsibility, 15 in cooperation, 19 in interaction and 11 in enthusiasm. The most noticeable difference between the ratings of the student coordinator and those of the evaluators, based upon student staffing documentation, is in the area of improved student interactions. This is largely accounted for by the fact that student staffing documentation contained relatively few comments made systematically about individual students in this area.

For next year, the evaluators recommend that the operations staff attempt to make comments on each student regarding each of the areas they would like to systematically monitor.

Student End of Year Questionnaire

In May, all $(CE)_2$ and CWE students and a random half of the OSC and THS random samples completed a Student End of Year Questionnaire. The questions dealt with (1) student's future plans, (2) reading interests and habits, (3) student's preparation to enter a career, (4) knowledge of job trends and related information, and (5) reflections on the school/$(CE)_2$ experience. The responses to the questionnaire were tabulated for each group and are included in Appendix K.

In regard to the student's future plans, 62 percent of $(CE)_2$ students plan to continue their formal education beyond high school. This is less than students from the comparison groups (89 percent from THS, 94 percent from OSC and 73 percent from CWE). About half of the $(CE)_2$ and CWE students plan to be working full time one year after graduation, while only about one-fifth of the THS and OSC students plan to be employed full time after high school. Twelve percent of the $(CE)_2$ students did not know what they would be doing one year hence. This does not differ dramatically from the comparison groups which averaged 7 percent undecided, nor did it change significantly from the beginning of the year when 15 percent of $(CE)_2$ students had no future plans.

Reading interest for all groups increased slightly from the beginning of the year. No differential gain between the various groups was evident. The number of books read (excluding textbooks) did not drastically change since the beginning of the year nor did the number of students who regularly read the newspaper. The front page and comics sections are still the most widely read sections of the newspaper by students in both the experimental and comparison groups.

The next set of questions dealt with the student's preparation to enter a career of his/her choice. When asked how sure they were of steps to prepare for and enter each of the two jobs that they had expressed an interest in, 73 percent of the $(CE)_2$ students and 74 percent of the OSC students indicated that the steps were clear. Fifty percent of the THS students and 53 percent of the CWE students expressed the same degree of clarity about career entry procedures. Eighty-seven percent or more of the students in each group felt they would be able to complete the necessary steps for at least one of the jobs. Fewer $(CE)_2$ students (65 percent) considered what they want out of a job as the first step in career planning than the comparison students (about 74 percent). More $(CE)_2$ students (62 percent) were able to accurately describe the future job market (Question 13) than the comparison group students (39 percent of THS, 52 percent of OSC and 47 percent of CWE).

Questions 14 through 22 were questions used in the American College Testing (ACT) Career Planning Program. They all dealt with knowledge

of career planning. While variation existed among the groups on many of the questions, there were no overall significant differences on the total eight questions.

Questions 23 through 29 asked the students to reflect upon their year's experience. $(CE)_2$ students were most like the OSC students in that they felt their experiences were helpful in aiding their understanding themselves, their thinking about future work plans and their preparation for future learning, and that they had control in planning and carrying out their learning experiences. They were quite different from the OSC students and from the other comparison group students, however, in that $(CE)_2$ students indicated that they had reflected more on the school experiences this year than had the other students.

CASE STUDY SUMMARY

Purpose

Case studies* of two $(CE)_2$ students were prepared as a part of the evaluation activities this year. The purposes of the case studies were to give the reader insights into the $(CE)_2$ program that could not be gleaned from quantitative group data and to explore the limits of case study methodology using file data supplemented by interviews with the two students.

Selection Criteria

Three criteria were used to select students for the case study. The first criterion specified that one member of each sex be represented. The second criterion required that both students be at least moderately successful in the $(CE)_2$ program. This was done to insure that the case study describe actual student-program interaction. Description of an inactive or unsuccessful student would not significantly add to knowledge of how the $(CE)_2$ program operates. The final criterion required that one student be a junior and one be a senior.

Procedure

File data were collected on two $(CE)_2$ students, one, whom we shall call Kari, who was in the program for a year and a half and who graduated; and one, Mike, who spent one year in $(CE)_2$ as a junior. These data (including test scores, questionnaires, student projects and resulting products, and other performance records) were analyzed and organized by a member of the evaluation team. Charts were then prepared to show the chronological

* For the complete case study write-up, see Appendix N. Assistance in the writing of these case studies was provided by two consultants, Ms. Corky Kirkpatrick and Marshall Herron.

sequence of activities of each student during the school year. These activities, together with background and test data, were then organized in narrative form.

Copies of the draft case studies were given to the two students, who were asked to read them and verify their accuracy. Interviews with the two students were then conducted to fill in any gaps in information and to provide more of the human element that file data did not contain.

Content

Each case study included a description of the background of the student, why the student entered the $(CE)_2$ program, activities and progress while in the program and student reactions to $(CE)_2$.

Mike began the $(CE)_2$ school year with low self-confidence, deficiencies in reading and communications skills, and above average ability and interest in math. His long range goal was to become a computer operator.

Mike's early $(CE)_2$ experiences were marked by tardiness and lack of commitment. He did not apply himself well at an elementary school where he worked for three and one-half months. During the second semester, however, he had the opportunity to work at a local bank where he dealt firsthand with computers and computer programming. His attitude and performance changed markedly. His lack of motivation and punctuality disappeared. He read about computers and worked closely with his employer instructor. Both his self-confidence and his communications skills improved.

The Life Skills projects that Mike completed during the year were designed to alleviate his lack of communications skills and self-confidence, and build on his interest in math and technology. His Canadian heritage and German ancestry also became the impetus for a project on immigration laws and a course in German.

Mike's big accomplishments for the year included a strengthened interest in computer technology and determination to find a career in that area. His personal appearance and self-confidence improved greatly and he reports with pride that he can now speak up in groups. And, while prior to $(CE)_2$ Mike never did unrequired reading but found TV his favorite pasttime, he reports that he read eight books this past summer and has begun a hobby of collecting computer books and materials.

Kari, an above average student at Tigard High School, entered $(CE)_2$ primarily because she saw the traditional high school curriculum as irrelevant. Despite opposition by her parents and friends, she was determined to try the $(CE)_2$ alternative.

Kari's initial experiences in the program fulfilled her worst expectations. She was bored by the initial inactivity and frustrated by the often detailed requirements of the program. She remained critical of many of the requirements of the program (including the exploration level, the exploration package and the mechanics of competency certification) although she finished all requirements for the first year and returned for the second despite parental pressure to return to a more traditional high school setting. Her parents felt the program needed more organization.

Her second year at $(CE)_2$ was marked by fluctuations both in her mood and performance. She began the year with enthusiasm and completed seven projects during the fall semester. At midyear, however, she again became disenchanted with what she was doing and her productivity dropped off. A noncommittal attitude and lack of follow through on her commitments were observed by the staff. A number of staff counseling sessions were held with her to help her better cope with various changes in her life. By February she had regained her excitement and became heavily involved in her learning level experiences.

Kari's big accomplishment at $(CE)_2$ was her "growing up." Both she and the staff recognized in retrospect that her ups and downs were symptoms of the normal transition from teenager to adulthood. They feel that she made the transition well. Kari's second major accomplishment was a decision about a career. At the beginning of her senior year she was undecided about further education beyond high school but her exploration and learning level experiences solidified in her mind her interest in secretarial work and in work as a telephone operator. After completing her $(CE)_2$ program requirements in early May she began a permanent position with the phone company as a telephone operator, a position she had worked at on one of her learning level experiences.

IV. FORMATIVE EVALUATION

Introduction

Formative evaluation is defined both by the nature of the data collected and the use to which the data will be put. Specifically, formative evaluation is considered a mechanism for providing feedback on program operations to appropriate decision makers.

The original formative evaluation plan was keyed to the milestone events and decision points projected in the FY 74 Operating Plan.* The plan anticipated that the provision of feedback by evaluation staff would occur in both "process monitoring" and "analytic" modes. The process monitoring mode was simply the task of keeping track of those milestone events due, complete or past due. As the year progressed, it became more efficient for the program administrative assistant to assume process monitoring responsibility. Progress on major milestone events is now routinely monitored and summarized in each quarterly report.

The "analytic" function of formative evaluation occurs in two ways. First, a specific set of evaluation questions was generated around the goals and objectives stated under each major component in the management plan (e.g., Management, Governance, Instructional System, etc.). These questions represented the attempt of program evaluators and the program management team to project management information needs over the program year. This list of potentially useful questions was carefully examined and prioritized by the program management team, and a final list of questions specified. The major thrust of formative evaluation activity has been directed to collecting information that speaks to these questions and to reporting this information at intervals that coincide with the timing of major program decision points.

The second way formative evaluation functions is in response to special requests from program administration for unanticipated data needs.

The information gathered by evaluation staff for formative evaluation purposes is summarized below. Data were collected primarily from $(CE)_2$ records; staff, student, employer or parent questionnaires; and interviews with staff, students or employers. Information gathered about each of the questions

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* FY 74 Operating Plan for the Employer-Based Career Education Program, NWREL, Portland, Oregon: July, 1973.

contained in the FY 74 Evaluation Plan* is presented, organized according to the components defined by the Operating Plan.

Management

1. What is the nature of the decisions made by the $(CE)_2$ Board over the 1973-74 school year?

A content analysis was made of the minutes of the $(CE)_2$ Board of Directors meetings of August 1973 through May 1974. The evaluators categorized the 70 agenda entries as information items, policy decisions or suggestions (see Table 17). Several policy decisions were made at all Board meetings but one. Most policy decisions related to changes in Board membership, the Bylaws or Articles of Incorporation, the subcontract with the Laboratory and student policies. The types of policy decisions made are listed by frequency in Table 17.

Table 17

CONTENT ANALYSIS OF $(CE)_2$ BOARD MINUTES FOR AUGUST 1973 THROUGH MAY 1974

Meeting Date	Type of Agenda Item Entry			Total
	Information	Policy Decisions	Suggestions	
August	15	3	2	20
September	2	5	1	8
October	5	3	--	8
November	2	3	--	5
December	6	--	--	6
January	5	1	--	6
February	5	1	--	6
March	3	2	1	6
April	No meeting held			
May	3	1	1	5
Total	46	19	5	70

* "Consolidated Formative and Summative Evaluation Plan," an attachment to the FY 74 Operating Plan for the Employer-Based Career Education Program, NWREL, Portland, Oregon: July, 1973.

Table 18

CONTENT ANALYSIS OF $(CE)_2$ BOARD MINUTES
BY TYPES OF POLICY DECISIONS MADE

Type of Policy Decision	Frequency
Change in Board membership	5
Change in Bylaws or Articles of Incorporation	4
Subcontract with the Laboratory	2
Change in a program requirement for students	1
Approval of a student work-for-pay policy	1
Cost of living adjustments for staff	1
Mileage reimbursement rate for staff	1
Approval of Tigard School District Study Committee	1
Student membership for FY 75	1
Staff salary	1

2. How effective were recruitment procedures for the 1974-75 school year?

The goals of the recruitment procedures for the 1974-75 school year included solicitation of applications from enough students to fill program vacancies and control group requirements. In all, 75 student applications were sought. Attempts were made to recruit students with a wide range of abilities and aspirations to accurately represent a cross section of high school students.

Briefly, the following procedures were employed.

1. Contact was made with the school district and high school staff to explain the goals of the recruitment activity and obtain their cooperation and approval.

2. On April 24 and 29 a $(CE)_2$ staff member and two or more $(CE)_2$ students visited all sophomore and junior classrooms at Tigard High School. They explained the $(CE)_2$ program components, answered student questions, presented a 10-minute slide show and passed out applications to interested students.

3. A letter was sent to the parents of all Tigard High School sophomores and juniors explaining the program and inviting them to an evening open house at the $(CE)_2$ learning center.

4. On May 7, 1974, an open house was held for the parents of prospective $(CE)_2$ students. A presentation by the $(CE)_2$ staff, a panel discussion by employers, Board members and staff, and a question-answer period made up the agenda. Approximately 65 adults and 50 students attended the meeting.

5. On May 15, 1974, $(CE)_2$ students for the 1974-75 school year were selected. Of the 87 students who applied to the program 15 were considered highly motivated students and guaranteed admission into the program. (The highly motivated students were admitted to counterbalance the disproportionate number of returning $(CE)_2$ students judged to be low in motivation.) The remaining 72 students in the applicant pool were then randomly assigned (by means of a random number table) to experimental or control group. Upon completion, 30 students were added to the experimental group and 42 to the control group.

A comparison of available transcript data of the student applicants including data from the program students from the 1973-74 school year and data from a random sample of Tigard High School students from the 1973-74 school year is summarized in Table 19. The grade point averages are cumulative and include up to the last year the student was in Tigard High School. Both juniors and seniors are included in each sample.

Table 19

SUMMARY OF TRANSCRIPT DATA ON
1973-74 AND 1974-75 $(CE)_2$ APPLICANTS AND
1974-75 TIGARD HIGH SCHOOL RANDOM SAMPLE

Group		Grade Point Average and SCAT Scores			
		Prior Grade Point Average	Verbal	Quantitative	Total
$(CE)_2$ Applicants	$\bar{X}$	2.50	50.20	47.80	49.40
	S	.62	9.26	10.80	10.10
	N	82	50	50	50
1973-74 $(CE)_2$ Students	$\bar{X}$	2.11	45.90	44.70	44.80
	S	.65	9.10	8.60	8.40
	N	38	34	34	34
THS Random Sample	$\bar{X}$	2.81	51.30	51.40	51.60
	S	.73	8.65	9.65	9.08
	N	70	63	63	63

The data indicate the $(CE)_2$ applicants' GPA and School and College Achievement Test (SCAT) averages are above those of last year's students and slightly below the scores of the Tigard High School random sample. It appears, then, that the recruitment goal (at least 75 applicants with a wide range of abilities) was adequately met.

A questionnaire was sent to a sample of THS students who did not apply to $(CE)_2$ to determine why they were not interested in the program. Three primary concerns (voiced in 40 percent or more of the respondents) were that they did not want to leave their friends at the high school, they were concerned that $(CE)_2$ might not properly prepare them for college and they preferred the type of education given at THS. Another concern, expressed by 33 percent of the students, was that they were not really sure what they would be required to do in the $(CE)_2$ program.

Students indicated that most parents' reactions to the program were neither positive nor negative (58 percent), 10 percent encouraged the student to join the program and 19 percent were against the student's joining.

When asked what changes would have to be made in a career education program to interest the student in joining, 33 percent said the program would never interest them. Changes suggested included more information (13 percent), more structure in the program (15 percent) and assurances that the program would not adversely affect performance in college (10 percent).

Sixty-eight percent of the students in the sample planned to continue their education in some way beyond high school. Fifteen percent of the students planned to work full time and 26 percent planned part-time work. Eight percent had no idea of what they would be doing after high school.

3. How many and what kinds of contacts have occurred between $(CE)_2$ and other educational institutions?

At the request of Tigard School District 23J, the Oregon Board of Education (OBE) has designated $(CE)_2$ a Pilot Program for the school years 1973-74 and 1974-75. With this designation, the OBE has waived certain standards for operation of the program.

In accordance with the Oregon statute allowing a school system to subcontract services, Tigard School District and $(CE)_2$ have signed a letter of agreement outlining responsibilities for the recruitment of students, inspection of high school records and testing of high school students for evaluation purposes, the cataloguing of community

resources, and a study of the feasibility of Tigard School District's support of $(CE)_2$ after federal funding ceases.

$(CE)_2$ is in contact with the Washington County Intermediate Education District for the purpose of providing that district information about, and ready access to, $(CE)_2$.

Numerous contacts are occurring between Tigard School District administrators/counselors and $(CE)_2$ staff regarding student transfers between the two institutions at semester break.

Through an informal agreement with Portland State University (PSU), $(CE)_2$ is utilizing volunteer PSU graduate students in certifying physical education competencies.

$(CE)_2$ is a member of the local chamber of commerce.

$(CE)_2$ is a member of the Oregon Community Education Association, an organization which encourages community involvement in the educational process.

Employer Involvement

4. How satisfied were students with the various employer sites?

The primary data source for this question is the "Student Evaluation of Learning Level Site" forms filled out by students placed on learning levels. In response to the question "Are you satisfied with your present learning site?" 97 percent of the students responded "yes." Only 3 percent of the students indicated dissatisfaction. No noticeable pattern or type of employer site (such as size or type of occupation) emerged as the source of the dissatisfaction.

5. Is information fed back to, and is it useful to, employers?

Sixty of the 90 questionnaires sent to employers were returned. Forty-seven of the 60 responded to the question, "Do you receive adequate feedback about what happens to students when they leave your site?" Their responses are summarized as follows:

Never				Always	
1	2	3	4	5	
17	14	10	2	4	Total: 47 employers answering

Forty-nine employers responded to the question, "Do you receive adequate feedback about the effectiveness of your work with students?" Their responses are summarized as follows:

Never				Always	
1	2	3	4	5	
9	18	8	6	8	Total: 49 employers answering

All "4" and "5" responses may be combined as an indication of the number of employer instructors who felt that they receive adequate feedback at least most of the time. In this case, 12 percent of the responding employer instructors felt they received adequate feedback about student activities away from their site. Twenty-eight percent felt they had enough feedback about their own effectiveness with students. Next year more frequent contacts are scheduled between the employer relations specialists and the employer instructors.

6. How many active employer sites from FY 73 remained as active sites in FY 74 and how many new sites were added?

As of March 1974, there were 87 employer sites available to $(CE)_2$ students. Forty-six of these were also used during the previous school year. Forty-one new sites were added. During the 1972-73 school year, 94 employer sites were available to students. A survey of the resons given why 19 of these employers declined further participation is summarized in Table 20.

Table 20

REASONS WHY SOME EMPLOYERS DECLINED FURTHER PARTICIPATION IN $(CE)_2$

Reason	Number
Operation was too small for participation	6
No time or resources to continue	5
Not receptive to the EBCE concept	3
Participating in other school programs	2
Too hazardous for students	1
Didn't like the students	1
Unpopular with students	1

7. How many occupational areas were represented by participating employers in FY 74?

For the purposes of this analysis, "participating" employers means those employers who have actually had students on their premises this current school year. This designation applies to 87 employer sites. Following are the number of participating employer sites in each of the main categories of the Standard Industrial Classification* system.

Table 21

PARTICIPATING $(CE)_2$ EMPLOYER SITES
CLASSIFIED BY THE
STANDARD INDUSTRIAL CLASSIFICATION SYSTEM

Classification	No. of Sites
Agriculture, Forestry and Fishing	1
Construction	3
Finance, Insurance and Real Estate	2
Manufacturing	7
Mining	0
Public Administration	8
Retail Trade	17
Services	44
Transportation, Communications, Electric, Gas and Sanitary Services	5
Wholesale Trade	0
Total	87

The number of employers in each category is approximately the same as last year. The only exception is the Manufacturing category where a decline is evident. Last year, 14 out of 94 employers were manufacturers. This year only 7 out of 87 were in that category.

* Standard Industrial Classification system classifies business by types.

8. How valuable were the learning experiences at the various sites?

In response to a question on the "Student Evaluation of Learning Level Site" form which asked "Are you gaining valuable learning experiences?" 90 percent of the students responded "yes," 8 percent replied "somewhat," and 2 percent said 'no." No consistent pattern emerged among the employers who elicited a "somewhat" or "no" response.

9. How many exploration, learning and skill building experiences have students been involved in at the various employer sites?

Records at $(CE)_2$ indicate that students were involved in 201 exploration and 90 learning level experiences this year. Table 22 illustrates how these experiences are distributed across the 13 Occupational Outlook Handbook classifications. Because data in the record books did not always specify which occupation the student was exploring at a particular site, 29 exploration and 25 learning level sites were not classified (see category 14).

Table 22

NUMBER OF $(CE)_2$ EXPLORATION AND LEARNING PLACEMENTS BY OCCUPATIONAL OUTLOOK HANDBOOK CLASSIFICATIONS

OOH Classifications	Number of Site Placements	
	Exploration	Learning
1. Industrial Production and Related Occupations	9	6
2. Office Occupations	27	9
3. Service Occupations	22	9
4. Education and Related Occupations	28	12
5. Sales Occupations	10	0
6. Construction Occupations	3	1
7. Occupations in Transportation Activities	3	1
8. Scientific and Technical Occupations	8	3
9. Mechanics and Repairmen	27	9
10. Health Occupations	14	6
11. Social Scientists	0	0
12. Social Service Occupations	11	2
13. Art, Design and Communications Related Occupations	10	7
14. Not Classified	29	25
Total	201	90

The Occupational Outlook Handbook classification system was used because (1) it is comprehensive and (2) its design, with an alphabetized listing of occupations, provides a reliable classification scheme.

Community Relations/Staffing

10. How many general information presentations have been made by $(CE)_2$ staff and to what kinds of audiences?

The list of formal presentations made to different groups through April 1974 is presented in Table 23.

Table 23

FORMAL INFORMATION PRESENTATIONS
MADE BY THE $(CE)_2$ STAFF

Organization	Date
National School Boards Association	October 18, 19, 1973
Tigard Rotary Club	November 8, 1973
Oregon School Boards Association	November 16, 1973
Southwestern Metropolitan Chamber of Commerce	November 20, 1973
Chief State School Officers, NWREL Region	December 12, 1973
Model II Evaluators and NIE Evaluation Coordinator	December 17-19, 1973
Tigard Parent Teacher Student Association	January 17, 1974
Oregon Association for Supervision and Curriculum Development (Lincoln City)	January 18, 19, 1974
Washington County Central Labor Council	January 21, 1974
Tektronix Middle Managers	January 22, 1974
Oregon School Administrators	February 4-5, 1974
Washington Association for Supervision and Curriculum Development (Spokane)	February 8, 1974
Oregon State University Extension	February 15, 1974
SW Chamber of Commerce	March 5, 1974
National School Boards Association (Houston)	April 7-8, 1974
Tigard Optimists	April 11, 1974
Northwest State Directors of Vocational Education	April 19, 1974

In addition to these presentations a variety of visitors, including local teachers and school administrators, local community people, state departments of education personnel, NIE visitors, R&D lab personnel, employers and labor union representatives have observed $(CE)_2$ and interacted with staff and students. Detailed records of informal presentations to such audiences have not been kept. The above list does not include replication presentations to potential adopters of EBCE held under the auspices of NWREL. These occurred throughout the summer of 1974.

11. How do $(CE)_2$ staff utilize their time?

$(CE)_2$ staff members were asked to fill in a weekly schedule that would represent a "typical" week of activities from the course of the year. Although about 30 percent of the staff time is spent on developmental activities, as contrasted to program operations, staff members were asked to fill in the schedule with "operations" activities only. This was done to obtain a clearer picture of how an operations staff might work full time with the program.

The various activities were categorized into five groups and summarized by staff position in Table 24.

Table 24

SUMMARY OF THE PERCENT OF $(CE)_2$ STAFF TIME DEVOTED TO VARIOUS TYPES OF ACTIVITIES

Staff Position	Administrative Tasks	Interactions With Staff	Working With Students*	Interactions With Community People**	Record Keeping and Preparing Student Materials
Project Director	32***	18	4	46	
Learning Managers		14	43	10	33
Employer Relations Specialists		10	28	32	30
Learning Resource Specialist		15	38	28	19
Student Coordinator		Data Not Available			

* Includes Student/Staff Conferences
** Includes Student/Parent/Staff Conferences
*** Percentage of weekly time

Data are presented for all staff positions except that of student coordinator who, because of variations in day-to-day and week-to-week activities, was unable to produce a "typical" week.

Instructional System

12. Is the Student Accountability System functioning effectively in terms of utilization, follow through and results?

The Student Accountability System consists of a list of responsibilities for which students are held accountable and a specified sequence of consequences which follow if these responsibilities are not discharged. The responsibilities are divided so that (1) students have a variety of "options" available to them, (2) some program requirements are considered "important," and (3) certain program requirements are defined as "crucial." These categories encompass a broad range of student obligations, from negotiating learning experiences under the "options" category to keeping appointments with employers and obeying the law under the "crucial" category.

In fact, the responsibilities listed are so broad in their coverage that the effectiveness of the accountability system is closely tied to the operational effectiveness of the program as a whole. In this regard, the reader is referred to relevant data presented elsewhere in this report which summarize such things as the number of projects completed in each Life Skills area (Table 30, p. 89), the number of students completing each competency (Table 7, p. 31) or the composite summary of staff, parent, student and employer judgments of the program's effectiveness in accomplishing 15 student learnings (Table 8, p. 47). The discussion presented here will be limited to data such as accountability-related comments of staff and students; estimates of the extent to which students have discharged certain responsibilities listed in the system; and a summary of the frequency of consequences defined by the system.

Among staff members, seven out of eight rated the accountability system as highly necessary. In their judgment of how effectively the system had been implemented, however, they averaged only 2.8 on a scale from one to five.

Students were mostly positive in their responses. In answer to the question, "Are the procedures used by the staff to get students to complete program requirements (such as journals or projects) working okay," all 14 of the sampled students interviewed said "yes." Some went further to comment that they thought some kind of an accountability system was necessary, that they felt things were handled fairly, and that they had no particular objections to the way the system was being implemented.

A significant source of employer comment on responsibility evidenced by students on their sites is the Student Performance Review Form.

At least one performance review is completed by employer instructors for each student on a learning level experience at their site. Student performance on each of 22 criteria is rated as "needing to improve," "improving," "satisfactory," "commendable," or "excellent."
Table 25 summarizes the percent of employer responses of satisfactory, commendable or excellent totalled over all exit performance reviews done by employer instructors this year.

Table 25

EMPLOYER INSTRUCTOR RATINGS OF STUDENTS
COMPLETING LEARNING LEVEL EXPERIENCES (N=63)

Student Behavior	Employer Rating*
Attendance/Punctuality	
Reports to employer site on time	86
Adheres to established schedule	75
Attitude	
Understands and accepts responsibility	77
Observes employer's rules	94
Shows interest and enthusiasm	87
Courteous, cooperative	97
Good team worker	95
Judgment	86
Poise; self-confidence	81
Demonstrates appropriate dress/grooming	92
Concerned for equipment/property	97
Learning Process	
Uses initiative; seeks opportunities to learn	73
Learning growth	85
Quality of assigned projects	93
Asks questions of appropriate person	91
Uses employer-site learning resources	92
Performance	
Begins assigned tasks promptly	79
Seeks feedback concerning performance	82
Accepts feedback information	91
Uses criticism constructively	88
Completes tasks assigned	88
Progressively requires less supervision	84

* Percent of employer instructor ratings of "satisfactory," "commendable" or "excellent."

Students were rated highest in being courteous, cooperative and having a concern for equipment/property. They were rated lowest in using initiative, adhering to an established schedule and understanding and accepting responsibility.

Figures 4 and 5 summarize student completion of projects and competencies--two specific tasks for which $(CE)_2$ students are held accountable. These displays contain data only on those students enrolled in the program from September to May. Returning seniors completed an average of 8.8 projects and 10.6 competencies; new seniors, 8.3 projects and 6.3 competencies; and the juniors, 4.9 projects and 5.8 competencies. All students enrolled in the program for an entire year are expected to complete ten projects and six or seven competencies.

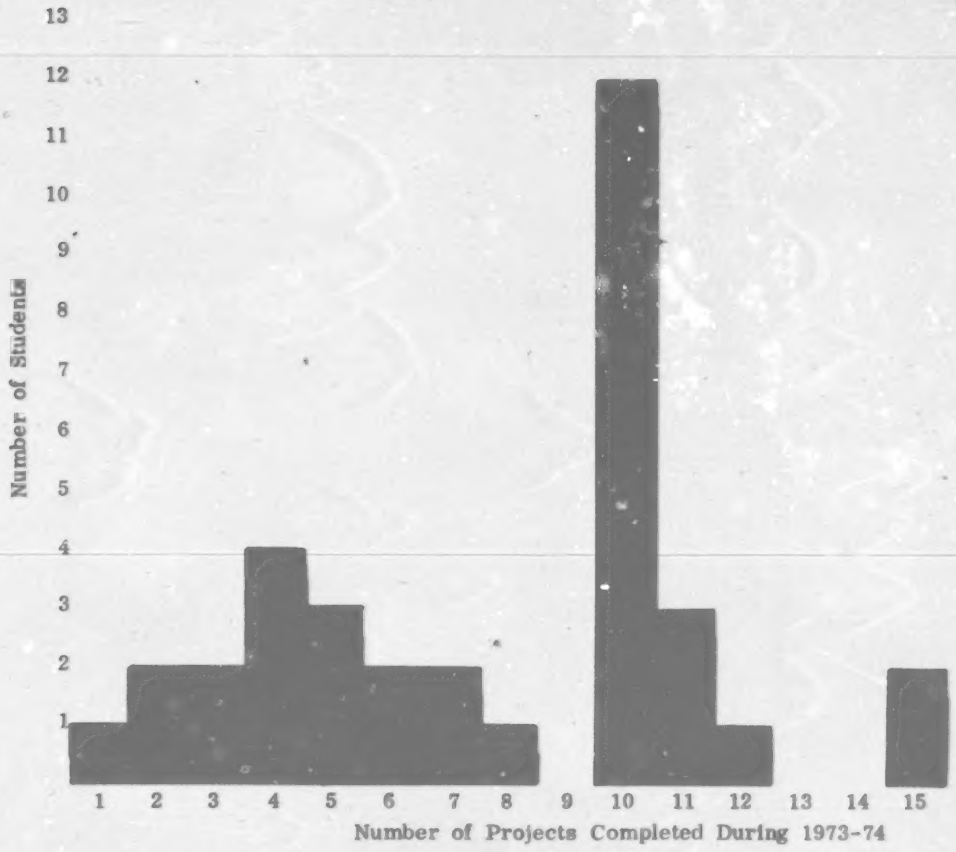

Fig. 4. Frequency distribution of the number of projects completed in 1973-74.

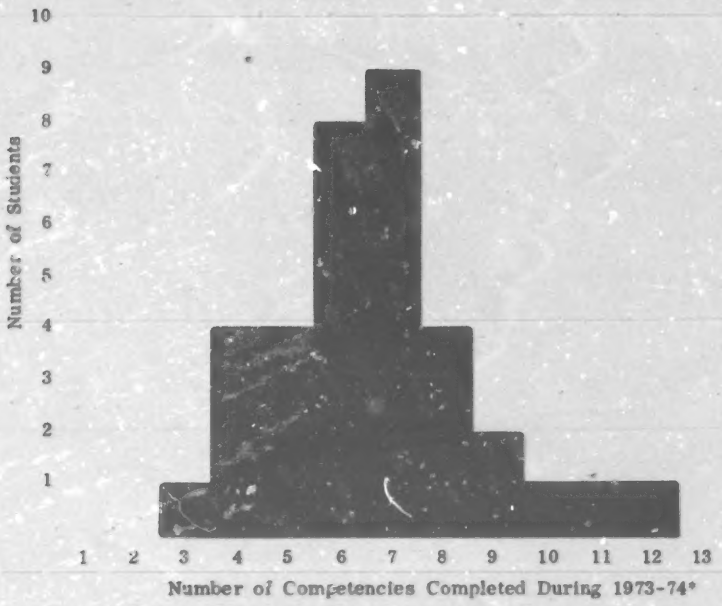

Fig. 5. Frequency distribution of the number of competencies completed in 1973-74

* Eight returning students completed a total of 20 comptencies in 1972-73. Individual completions ranged from 1 to 7 in 1972-73.

Some student responsibilities--such as establishing reasonable lunch hours and selecting transportation--are considered "options" in that their specifics may be negotiated to suit the situation. Others are deemed "important": signing in and out, informing employers and staff of schedule changes, showing care for equipment and facilities and the like.

Failure of students to meet responsibility for items listed as "important" results in penalties such as denial of use of lounge area, having to spend a specified amount of time working around the learning center, cleaning up the lounge or not being allowed to return to employer sites for a specified period of time. Repeated neglect of expectations considered "important" results in these items being added to the third category, "crucial": those behaviors considered absolutely critical to a student's forward movement in the program.

Failure of students to meet commitments classified as "crucial" are dealt with in the following ways. First, a staff member confers with the student to clarify concerns. A probation period of no more than one week is established, during which the student must accomplish agreed upon improvements. All criticisms and agreements are put in

writing. If within one week satisfactory improvement has not occurred, a conference with a staff member, the parents and the student is held. An additional week's probation is granted for action taken on any agreements growing out of that conference. If adequate improvement is still not shown, a conference between the student, staff member, parents and the project director is held and one of two decisions made. Either the student is dropped from the program or an additional amount of time is given to allow the student to improve. If all parties are not satisfied at the end of this period the student's involvement in the program is terminated. Table 26 summarizes records of actions taken in each of these categories as of February 1, 1974. Program staff have indicated that additional actions have been taken that were not formally recorded. Actions taken during the second semester were not meticulously recorded and were not available for this report.

Table 26

SUMMARY OF ACCOUNTABILITY ACTIONS TAKEN WITH $(CE)_2$ STUDENTS

Problem	Action	No. of Instances*
Step 1		
Not completing competencies or journal	Deadline or work schedule of 1/2 hour per day until work is made up	24
Poor attendance	Conference with learning manager or student coordinator	8
Not following through on tasks or assignments	Set up checkup schedule and/or contingencies	7
Not following through on tasks or assignments	Probationary period	1
Not following $(CE)_2$ rules	Conference	3
	Detention time (15 minutes each day not signing in or out)	
Not following through on commitments at job sites or not going	Conference and/or consequences designated	5
	Probation at job sites	2
	Letter home	1
Step 2		
Selling or purchasing drugs	Parent conference	1
Irresponsible at job site	Parent conference	3
Lack of effort in the program	Parent conference	2
Step 3		
Selling or purchasing drugs	Two week suspension	1
	Six week suspension and work with drug treatment and control groups	1
Irresponsible at job sites	One week suspension	2
Poor participation	Asked to leave program (possible reinstatement)	1

* Figures listed were actions recorded only as of February 1, 1974. Accurate figures for the second semester were unavailable.

13. Is the student record system sufficiently comprehensive and useful to the staff?

Interviews with operational staff concerning the record keeping system elicited terms such as "life line," the "nerve center of the whole operation," or "we would be hopelessly lost without it." In response to the question of what forms might possibly be eliminated without disturbing the efficiency of the operation, no staff member felt any part of the record keeping system was unnecessary. (Developmental work during the summer of 1974 has resulted in extensive consolidation of paperwork, however.)

In response to the specific request of the project director, evaluation staff examined the record system (in late November and in early February) to determine if specific job skills learned by students (e.g., welding, typing, keypunching, etc.) were being systematically recorded. The analysis revealed that they were not. Modifications were made in the student record portfolio to remedy the problem. A section describing the job-related skills and proficiencies acquired by $(CE)_2$ students is now a part of the student's permanent records.

14. Are students able to identify and secure resources and materials for supporting their learning plans? Where are they getting them?

Both staff and students have indicated that locating and securing information and materials has not been difficult. A 14-student random sample listed the following sources when they were interviewed. The number of students citing each resource is given in parentheses and reflects a wide variety of resources.

1. Talking directly with employers or people in the community (8)
2. Tigard High School Library (8)
3. Multnomah County Library (7)
4. $(CE)_2$ files or learning resource specialist (4)
5. Portland State University Library (4)
6. Tigard Public Library (3)
7. Picked up directly from employers (2)
8. Obtained from the learning manager (2)
9. Bought own books (1)
10. Lewis and Clark College (1)
11. Writes to sources (1)

15. How much involvement do students have in setting goals for their own learning and for selecting content and designing activities to achieve these goals?

In the interview sessions, all 14 sampled students were able to successfully describe how they identified or selected topics, met with

the learning manager to add or delete specific objectives and had some choice in negotiating the scope and focus of their projects. All students said that they felt they had enough freedom in selecting how they were going to go about working on their projects. In answer to the question, "How much involvement do you feel you have in selecting your own learning goals while developing projects," 11 students said "much," 3 said "some" and no one said "none."

These same feelings are borne out by the responses of the 43 students who filled out the Student Opinion Survey. Five questions were asked about such things as whether students felt they could progress at their own rate and whether they felt they had enough choice in deciding how they would utilize their time. Responses were overwhelmingly positive on all five questions. Most of the negative comments referred to the amount of choice available to students while on the employer sites. Exact responses to these questions are discussed in the summative evaluation section of this report (Section III).

16. What is the procedure for giving students systematic feedback on their progress? Is it effective?

The individualized nature of the program provides students with feedback in many ways. Journals and projects are critiqued orally and in writing by the learning managers. Individual negotiating sessions and other meetings are held with staff members. Students receive informal feedback from employer instructors on their learning sites and are given a formal performance rating by these individuals at least twice during each learning level experience.

Four questions asked on the Student Opinion Survey were especially relevant to whether students felt they were getting sufficient feedback. Their responses are listed below and indicate that while most students feel they are getting adequate feedback, some feel especially at employer sites that the feedback is inadequate.

		Yes	Neutral	No
1.	Do you get enough feedback about how well you are doing in the program?	30	6	7
2.	Do most of the employer/resource sites you have worked with let you know how you're progressing?	22	12	9
3.	Did you get clear instructions when you needed them?	43	0	0
4.	Did the employer tell you when you did a good job?	36	2	5

17. What is the procedure for establishing baseline diagnostic information about students' ability levels, needs, etc.?

Baseline diagnostic information is gathered by means of student self-analysis, staff interviews, and standardized and locally-developed data collection instruments.

Self-Analysis. Students describe themselves in an interview with reference to eight specific areas of concern: learning environment, favorite subjects, learning alternatives and materials, work responsibility, assignment completion, learning stimuli, school problems and work objectives.

The student's self-analysis in terms of these areas is summarized by the student coordinator and entered in the Master Record Book.

Learning Manager Analysis. The learning managers interview the students in an attempt to get to know the students in a general way and to identify overall strengths and weaknesses that might affect their functioning in the program.

The results of the interviews are summarized mostly in terms of learning manager subjective judgment. The summaries are recorded for each student in the Master Record Book.

Basic Skills. Assessment of Basic Skills is done by means of the Comprehensive Test of Basic Skills (CTBS). The CTBS yields scores in reading ability, language arts, arithmetic and study skills. It is administered to all students before the school year begins. The tests are scored and the student coordinator summarizes each student's scores in a diagnostic format (i.e., describes his or her strengths and weaknesses).

Life Skills. Criterion-referenced tests modeled after the National Assessment instruments have been developed by the $(CE)_2$ staff based on program objectives for the Life Skills. For each Life Skills area, each student is assessed by the learning manager in an interview before the student begins a project in that particular area.

The criterion-referenced instrument was not finalized until mid-October. Due to time constraints, assessment in the Life Skills was about 25 percent completed by December 1. It should be noted, however, that each Life Skills area is assessed for each student as the need for information in that area arises (i.e., a project is about to be written in that area). Therefore, until each student has worked on a project in each Life Skills area, one would not expect 100 percent of the

Life Skills assessment to be completed. The learning managers have indicated that they did not find the Life Skills assessment instruments sufficiently comprehensive or informative to warrant their continued use next year.

Career Development. At the beginning of the school year, all $(CE)_2$ students complete the Holland's Self Directed Search. This instrument identifies career areas that the student's interests and strengths point out as areas to be explored.

A computer terminal on line with Oregon's Occupational Information Access System (also known as the Career Information System) is available to students. Students use the computer to investigate job opportunities and job requirements that correspond to their interests and abilities. As students' interests change, the computer is available on a "serve yourself" basis to update information.

18. How is baseline diagnostic data used in designing learning plans?

Discussions with the learning managers indicate that the use of baseline diagnostic data has become an integral part of a process identified by staff as one of the most important and the most effective of the learning techniques at their disposal. This is the negotiation process by which students and their learning managers come to a negotiated agreement about which objectives will or will not be included in a student's project. The student brings to this negotiation session his/her own interests, preferences for learning style, and ideas about what he/she needs. The learning manager brings knowledge of program requirements, student's past performance, needs of the student as previously diagnosed, and other professional and intuitive judgments concerning the specific needs of a particular individual. The negotiating sessions are at the heart of the individualized nature of the $(CE)_2$ program. The "baseline data" are one of the major sources of data brought into the negotiating sessions.

19. How many employer seminars were held?

During the 1973-74 school year, four employer seminars were held. On October 31, 1973, Mike Torrey, Personnel Manager of Williams Air Control, and Ida Meyers, Personnel Manager of Tektronix, dealt with the topic of "procedures for applying for a job." On November 27, 1973, Andy Parnes, a professor of economics from San Jose State College, conducted a seminar using the oil/energy crisis as an example of the way economics impacts daily life. The third seminar was conducted by Bill Moshofsky, Vice-President of Georgia Pacific, and Tom Sloan, Personnel Director of Tektronix, on January 16, 1974. Their topic was "the changing work ethic."

The fourth seminar was held on March 27, 1974, and involved a panel of community people who discussed the issue of job discrimination and commented on some experiences based upon this theme.

How valuable were they in the perception of the students and staff?

Sixteen students were polled in quasi-random fashion just before the January 30 "Wednesday student meeting." (The term quasi-random is used here because as many students were polled as evaluators could reach before the meeting started. While no structured random technique was employed, any $(CE)_2$ student who was present for the testing scheduled for the noon meeting had approximately equal probability of being polled.) The students were asked to comment on "How helpful the seminars are to you," and then to "grade" their usefulness on a scale from one to three, one being the highest rating.

The first session on procedures for applying for a job was attended by all 16 students; the second on economic influences on daily life by 12; and the third on the changing work ethic by 14 of the 16 students. Their ratings of the three sessions are contained in Table 27.

Table 27

$(CE)_2$ STUDENT RATINGS OF EMPLOYER SEMINAR SESSIONS

Session	Number of Students Rating Session As:			Total N
	1	2	3	
First Session	11	3	2	16
Second Session	3	4	5	12
Third Session	3	2	9	14

The most commonly voiced criticism of the employer seminars among these students was that they "didn't understand what the speakers were saying." Complaints were directed primarily at the second and third seminars. This feeling of "not understanding what was going on" seemed to be the primary factor influencing the ratings summarized in Table 27. The fourth seminar was not rated by students.

20. How much time is spent by employer/community instructors working with students?

An employer cost study, conducted this spring for $(CE)_2$ by an independent contract, which polled a stratified random sample of

30 participating employers, reported that the employer spent, on the average, 26.9 hours per month working with $(CE)_2$ students.* This figure includes exploration and learning level experiences. It might also be noted that this figure represents the time spent by a particular employer with a student and not the time spent by students on employer sites. Because a student may work on more than one site per month, the actual amount of student-employer instructor contact time is probably much greater. A breakdown of the employer instructors' time by category of task is shown in Table 28. The estimated cost per month per student for this instructional time is $184.25. Three to five times as many hours were provided by employer instructors for sharing information with students on the learning level as on the exploration level. No significant time differences between exploration and learning levels were noted for other cost areas. Instructional time did not appear to be greatly different when the data were examined between production or service type businesses or when considering the size of the business.** In reading Table 28 it should be kept in mind that for a few activities such as assistance with written objectives actual time was recorded for only 10 of the 30 employers interviewed. It is assumed that the remaining employers did not spend time in this activity.

Table 28

NUMBER OF HOURS SPENT
BY EMPLOYER PER STUDENT PER MONTH

Type of Activity	Number of Hours
Orientation time	2.8
Beginning skills counseling	4.7
Assistance with written objectives	4.2
Attendance certification	2.1
Performance review	1.4
Information sharing	11.7

* Turner, C., M. Dryden and J. Thrasher, "Investigation of Employer Costs in Experience-Based Career Education," The Institute for Educational Management, San Diego, California: April, 1974, p. 86.

** Ibid., p. 96.

21. How many projects were generated for $(CE)_2$ students? How many were completed? How many were dropped?

Projects generated, completed or dropped in each of the five Life Skills areas are summarized by month in Tables 29, 30 and 31. As can be seen in Table 29, the learning managers and students generated more projects in February and March than they had in the combined first five months. Substantially more projects were generated in critical thinking than in the other areas. Correspondingly, in Table 30 only 49 projects had been completed by students prior to February. Reasons for this slow start included the other demands on learning managers' time and the need to gain experience and efficiency in developing projects. The number of projects completed by students per month increased each month of the school year with the single exception of February. In Table 31 two areas, functional citizenship and creative development, show the greatest proportion of projects dropped or not completed.

Table 29

PROJECTS GENERATED MONTHLY IN EACH LIFE SKILLS AREA

Life Skills Area	Month										Total
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	
Critical Thinking	3	10	6	19	1	16	13	12	4	1	85
Functional Citizenship	4	4	3	0	8	4	18	20	8	0	69
Personal/Social Development	5	7	5	0	1	20	17	8	6	0	69
Creative Development	9	6	2	4	4	10	18	3	8	3	67
Science	3	8	9	0	4	19	16	9	1	0	69
Total	24	35	25	23	18	69	82	52	27	4	359

Table 30

PROJECTS COMPLETED MONTHLY IN EACH LIFE SKILLS AREA

Life Skills Area	Month										Total
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	
Critical Thinking	0	0	1	5	5	4	6	12	16	21	70
Functional Citizenship	0	0	0	2	5	3	5	2	10	20	47
Personal/Social Development	0	0	1	2	2	3	1	16	14	18	57
Creative Development	0	0	2	8	8	1	5	2	10	9	45
Science	0	0	2	1	5	2	8	12	15	11	56
Total	0	0	6	18	25	13	25	44	65	78	275

Table 31

PROJECTS DROPPED OR NOT COMPLETED
IN EACH LIFE SKILLS AREA

Life Skills Area	Number of Projects Dropped
Critical Thinking	15
Functional Citizenship	22
Personal/Social Development	12
Creative Development	22
Science	13
Total	84

22. How many competencies were completed by students in the program?

For a discussion of this question please refer to page 31, Table 7 in this report.

23. How useful do students and staff perceive each of the learning strategies to be?

The random group of students interviewed in February was given a list of 14 learning processes and asked to respond to the following question: "Here is a sheet showing the various learning processes in $(CE)_2$. Let's cross off any that you have not yet used. Please take a minute to rate each process as High, Medium or Low in terms of how useful you think it is in helping you to learn. As you go through the list feel free to comment out loud on any ones you care to."

The five learning strategies receiving the highest and the five receiving the lowest composite ratings by students are listed in Table 32 (means are computed on the basis of a three-point scale: High=3, Medium=2, Low=1).

Table 32

STUDENT RATINGS OF LEARNING STRATEGIES

Learning Strategies	Mean
Highest Ratings	
Actual involvement on an employer site	2.00
Working on projects	2.79
Counseling groups	2.75
Student retreat	2.66
Employer/community tutors	2.62
Lowest Ratings	
Testing and measurement	2.00
Employer seminars	1.93
Exploration package	1.86
Using the computer	1.80
Student journals	1.71

$(CE)_2$ staff were asked to rate how important certain processes were and how effectively they felt the processes had been implemented. Learning processes listed on the staff questionnaire were related to a list of "handbooks" to become available this year that describe the parts of the EBCE program.* Table 33 summarizes staff responses to these questions.

Note: Students and staff were not responding to exactly the same list. Eleven of the 14 items on the student response list matched 10 of 13 items on the staff response list. Two kinds of group activities were listed on the student lists, only one on the staff list. Three responses on the student list not listed for staff were "Using the computer," "Actual work on an employer site," and "Testing and measurement." Two responses on the staff list not listed for students were "Student accountability system," and "Learning level process." Those responses on both lists are marked with an asterisk on Table 33.

* See Appendix Q.

Table 33

STAFF RATINGS OF LEARNING STRATEGIES

Learning Strategies:	How Important for $(CE)_2$ Students? Not Important 1	2	3	4	Highly Important 5	How Effectively Has It Been Implemented? Not Effective 1	2	3	4	Highly Effective 5	Mean Response for Effectiveness
a. Student Orientation*	--	--	1	3	4	--	--	5	2	1	3.50
b. Student Accountability System	--	--	1		7	--	3	4	3	--	2.75
c. Student Negotiation*	--	--	--	3	4	--	2	1	1	3	3.71
d. Project*	--	--	--	1	7	--	--	3	5	--	3.63
e. Journals*	--	2	4	1	--	--	4	1	3	--	2.88
f. Competencies*	--	--	--	3	4	--	--	3	4	--	3.57
g. Exploration Package*	--	--	--	4	3	--	1	4	2	--	3.14
h. Learning Level Process	--	--	--	--	7	1	1	4	1	--	2.71
i. Learning Level Package*	--	--	1	3	4	1	3	4	--	--	2.38
j. Tutors*	--	2	1	1	4	--	5	1	2	--	2.63
k. Employer Seminars*	--	--	6	2	--	2	2	1	3	--	2.63
l. Group Activities*	--	--	2	3	2	2	1	1	2	--	2.50

* These strategies were asked commonly of staff and students.

Both groups gave relatively high ratings to working on projects and relatively low ratings to the employer seminars. Otherwise there was little agreement between them. Students gave the lowest ratings to the "student journal," next lowest to the "exploration package." Both processes were rated relatively high by staff. Conversely, "tutors" and "group activities" were rated low in effectiveness by staff but were named among the five most useful learning processes by students.

24. What is the quality of student projects and resulting products?

A summary of the technical reviews of projects from each of the Life Skills areas is included in the summative evaluation section--Section III--of this report. The learning managers' evaluation of

student products resulting from projects is included within the discussions of each Life Skills area in Section III.

25. What is the distribution of time students spend at various activities?

A sample of 11 students was asked in May to keep a specially coded daily log of their activities for one week. Data were received from 7 of the 11 students. The total number of days recorded was 35. The average day reported was 6.5 hours long. Figure 6 illustrates how students reported their time was spent.

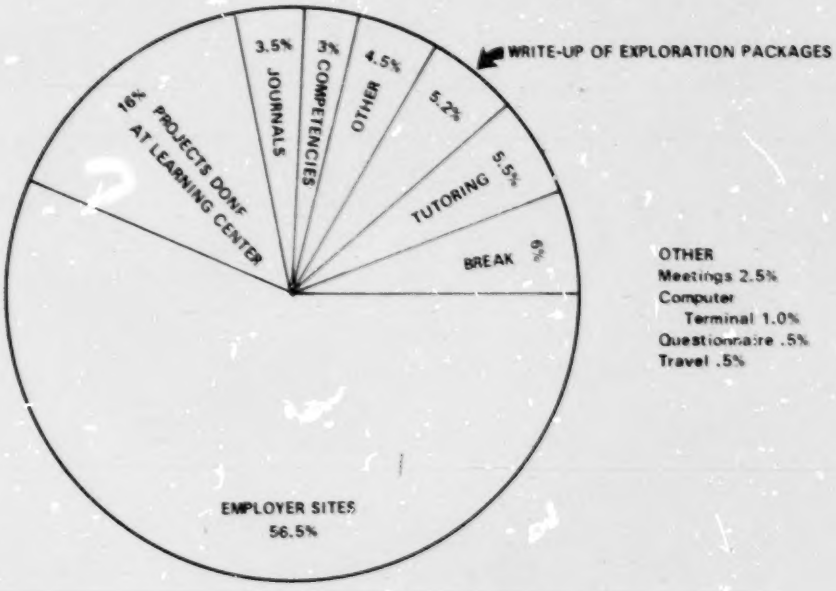

Fig. 6. Percent of student time spent at various activities.

The major change in the average student's day from that reported at midyear involves an increase in the amount of time spent at employer sites. The midyear proportion of 38 percent increased to 56.5 percent by the end of the year. This is due mainly to increased learning level activity. One student in the sample reported spending a 40-hour week at an employer site. Not displayed on the above chart is the fact that .5 percent of the project time was spent at employer sites as well as .5 percent of the Exploration Package time and 3 percent of the Learning Level Package time. Because the time allocation discussed above is based only upon seven students, the reader should be cautious in generalizing from it.

Guidance

26. What system is the $(CE)_2$ staff using to monitor and record affective growth? How effective is the system?

The system used to examine change in students' affective behavior is known as the "student staffing" system. This system and its effectiveness are discussed in Section III of this report (see p. 59).

Employer/Community Utilization

27. How many training/orientation sessions for employers have been held? Who came? How effective did employers feel these sessions were?

Orientation sessions (two "identical" meetings held on consecutive nights) were held for employers in October. No evaluation was done on the orientation sessions. A problem solving clinic (again, two sessions on consecutive nights) followed in early December. An evaluation of the problem solving clinic was conducted that attempted to determine the clinic's impact on employers and to identify employer suggestions for improving future sessions. A formative evaluation report was submitted to program management on January 16, 1974. Following is a brief summary of that report.

Observations of the two evaluators attending the clinics indicated that the presentations on both nights were exceptionally well-organized and presented. A questionnaire was distributed to each participant at the end of the sessions. Of the 42 participants attending the sessions, 25 completed the questionnaire for a 60 percent response rate. Because questionnaires were anonymous a followup was not conducted to increase this response rate.

Responses on the questionnaire were predominantly positive with the highest rating given to the program staff's willingness to respond to participants' questions. Lowest ratings were given on participants' understanding of the student learning system. Twenty-four of the 25 participants indicated that they felt the program's expectations for participating employers were realistic and all respondents felt that a weekly site visit by the employer relations specialist was sufficient to maintain communications. The most frequently cited observations of student changes involved students becoming more interested in a particular job or improving work-related behaviors such as punctuality.

Respondents indicated an interest in having future seminars address the areas of helping students reach their objectives, judging student performance and introducing a student to the "real world of work," including the training needed for it.

On March 14, 1974, a third session, attended by 43 employers representing 34 sites, was convened. The session emphasized the $(CE)_2$ program's orientation to the learning process. Small group discussion topics included "ways of helping and encouraging students on job sites," "judging performance on job sites," and "helping students to learn more about the world of work and training needed for specific jobs."

On June 4, 1974, a fourth session was held to receive employer evaluation and feedback. Approximately 50 employers attended. Topics discussed in depth included explorations, learning levels and the competencies.

No systematic evaluation was done on the March and June sessions. The continued attendance of a large number of employers at all the sessions however is another indication that the employers perceived the sessions as useful.

28. Is the Learning Site Analysis Form effective in identifying applied Basic Skills needed at employer sites?

The Learning Site Analysis Form (LSAF), in addition to providing an effective system for identifying Basic Skills potential of job sites, has produced additional positive side effects. The manner in which the learning site analysis is conducted requires the employer relations specialist to list major tasks and subtasks for the job being analyzed. For each subtask entered on the LSAF, a judgment is made about its potential for developing "applied" or "fundamental" Basic Skills in mathematics, reading or communications.

Employer relations specialists report that many employer instructors are pleased with the amount and degree of detail of information the technique digs out and displays about their jobs. It seems to help them get a better handle on what they do and what is required for their job. Employers also report that the LSAF procedure is often useful in preparing job descriptions and identifying personnel training needs at job entry.

29. To what extent do employers inform the center when students need help in Basic Skills?

Conversations with the employer relations specialists indicate that although employers are capable and willing to point out Basic Skills deficiencies, a convenient vehicle for this activity has not existed. While several employers contacted the learning center to point out Basic Skills deficiencies, it was the students themselves who most often brought out discrepancies between learning site requirements

and their own Basic Skills. A site monitoring mechanism is planned for next year to elicit employers' assessments of Basic Skills deficiencies.

The responses of 53 of the 60 employer instructors returning the Employer Opinion Survey at midyear are summarized below. Employer instructors showed a wide variation in describing themselves as either "very able" or "not at all able" to identify student deficiencies in the Basic Skills.

Not at all able				Very able	
1	2	3	4	5	
8	7	16	14	8	Total: 53 responses

This tendency is further borne out in the 14 student interviews conducted by evaluation staff in February. Only three students answered "yes" to the question, "Have employers helped you identify any Basic Skills that you need to work on?" These same three students indicated that the employers went on to provide help in the areas identified as problematic: math (1), spelling (1), and vocabulary recognition (1).

30. To what extent were students able to explore the career choices they indicated at the beginning of the year?

Data from the Student Opinion Survey, completed by students at midyear, indicate that most students have changed their career interests since the beginning of the year. Comparisons reveal only a 17 percent overlap between the three career interest areas listed on the February questionnaire and the three listed on the Self Directed Search in September.

Twelve of 14 students interviewed in February had explored each of the 3 areas they listed on the questionnaire in January. Analysis of the end of year questionnaire reveals that slightly over 75 percent of the end of year job aspirations had been explored over the course of the year. The employer relations specialists indicated that they have been able to supply employer sites to satisfy all but a few requests. In a few cases (interest in being an airline stewardess, for example) actual experience has been difficult--if not impossible--to arrange.

31. What effect, if any, is the evaluation having on changing operations of the project?

A response to this question is somewhat difficult to make because a cause-effect relationship is implied. Seldom has this been the case. The evaluation team has not uncovered information that was unknown

or unsensed by the operations staff. Since the two units have worked together closely this year, many of the same issues have been examined. What the evaluation team has done has been to systematically collect and present data that usually supported the opinion or hunches of the operations staff. Armed with these facts and figures the changes made by the operations staff were sometimes easier to explain to outsiders.

Three examples can be given to show the influence of evaluation information on changing project operations. On the February staff questionnaire, five of the eight operations staff members stated on an open-ended question that the CTBS information on individual students was useful. For example, the learning managers use this information when they set up projects for students. In another case, feedback provided to program staff concerning the student background information along with pretest data for $(CE)_2$ and a random sample of THS students showed that many of the $(CE)_2$ students have significantly different characteristics than those at THS. The evaluators provided the program staff with empirical data useful in making visitor presentations to document areas of similarity and areas of difference between $(CE)_2$ students and a cross section of THS students. A third example of the use of evaluation information by the program staff occurred when the evaluators and $(CE)_2$ staff worked together to develop an employer training workshop questionnaire. Information from this questionnaire was analyzed by the evaluation unit and the feedback of information to the $(CE)_2$ staff was considered useful by them in planning for their next employer workshop.

In addition, evaluation has also influenced developmental operations. For example, a questionnaire was developed to obtain from program staff and potential adopters their opinions of the importance and timing dimension of a number of projected "handbooks" describing program components. Such feedback allowed product development staff to prepare a production timeline to meet the needs of potential adopters of EBCE.

A brief rating scale was also developed in February 1974 for use with the Tigard School District EBCE Study Committee to assess the perceived importance of various kinds of evaluation information to potential adopters. Members of this group included parents, school administrators, Board members and students. This same rating scale was also used with the $(CE)_2$ Board. For an example of how the $(CE)_2$ operations staff interpret evaluation data the reader may wish to read Appendix P.

In addition to evaluation information useful to the program staff and special interest groups, comparative group information also has been useful to administrators at the Occupational Skills Center in planning future career education activities.

Formative Evaluation

32. How effective is the "decision form" in highlighting information to enter into the documentation?

The decision form was developed in September 1973 by the product development and documentation staff as a way of recording important decisions made by individuals or groups within the EBCE program that might have impact upon the policies or operations of the program. It was also felt that such forms would reduce the amount of staff time involved in recording and reviewing minutes from various $(CE)_2$ group meetings throughout the year.

In the judgment of the evaluation team the "decision form" concept has merit but has been ineffective in its implementation. A check of documentation files revealed that only eight decision forms had been recorded as of June 30, 1974. These results were discussed at a management meeting and the group consensus was that this was a low priority activity. No solutions were proposed at that time.

33. How effective are the evaluation instruments being used this year?

Shortcomings have been uncovered this year in the design, validity or use of almost all of the instruments employed. This section will sketch only a brief summary of some of the major problems encountered to serve as an aid to others in research and evaluation. Instruments discussed in this section are described in Appendix A.

The instrument that has stirred up the greatest criticism this year from students, project staff and evaluators at all four EBCE sites has been the Career Maturity Inventory. Problems cited in the use of this instrument in EBCE projects include that (1) the majority of staff surveyed at all 4 sites disagree with the "right" answer, as stated by the publishers, to 5 or 6 of the 50 items on the Attitude Scale; (2) several of the fundamental assumptions behind the test design may be appropriate to school-based career education projects but are inappropriate to experience-based projects; (3) some of the Attitude Scale items have low or negative point biserial correlations with the total scale score thus indicating that they are not measuring a homogeneous concept; (4) data about the specific items that measure the various dimensions claimed to make up the concept of career maturity are unavailable from the publishers; (5) the notion of a single score to reflect career maturity is rejected by many; (6) the competency sections of the test measure general knowledge about a broad range of careers whereas the emphasis in $(CE)_2$ is upon students gaining an indepth knowledge of those careers of personal interest to them; and (7) the competency sections are highly correlated with general aptitude measures and thus seem to be more a measure of general intelligence than of career maturity.

The Psychosocial Maturity Scale has been useful this year in measuring some of the indirect outcome measures of the project such as the students' openness to change, tolerance and willingness to trust others when warranted. The major problem encountered in using this instrument in September was its length (203 items) which caused many students to become bored with it. By October the evaluation team learned from Dr. Greenberger, the senior author of the instrument, that a 102-item version had been developed recently, making use of items selected from the initial 203. The pretests were rescored based upon only the items remaining on the shorter form. The short version was then administered to alternate students as either a midyear or posttest. The brevity of items per scale (approximately 10) prevented the individual scales from having high reliability for individual students. This caused the developers to regroup individual scales into three summary scales--individual adequacy, social adequacy and interpersonal communications.

The major problem encountered in the use of the Self Directed Search (SDS) was that many $(CE)_2$ students were unable to code and summarize their responses correctly. Prior to June 1974, the evaluation team was unaware of the multiple uses of the SDS for assessing student self-understanding. As a result, the instrument was used only for diagnosis and was not administered on a posttest basis. In July, Dr. Owens spent a day visiting personnel at the Center for Social Organization of Schools at Johns Hopkins University who were instrumental in the development and refinement of the SDS. New insights gained from this professional exchange will allow a more meaningful analysis of the SDS on a pre-post basis in 1974-75.

Problems encountered in using the student staffing process for program evaluation purposes have already been discussed in Section III where the results of this process were reported.

Two locally developed evaluation instruments used with $(CE)_2$ students this year have also contained problems. The Newspaper Reading Exercise, developed as a criterion measure of a student's ability to read sections from a local newspaper with understanding, suffered from a weakness which was also its strength. The newspaper sections selected for use were of high interest to students largely because they dealt with timely issues such as air pollution. When the same form of the test was used as a posttest measure it was not possible to tell whether the large gain made by students was a function of their increased reading ability, increased knowledge of the subject content or practice effect from having taken the test four months earlier.

The second locally developed instrument presenting problems was the Writing Exercise. Although the criteria used to score the Exercise had been adequately refined over the past two years, a problem arose

when some students provided too short a writing sample. While the directions called for over a full page, some students chose to write only one or two sentences.

The evaluators have pilot tested only prototype instruments in other areas directly related to EBCE with limited success. Further work is needed to improve instruments for assessing oral communication, the quality of experiential learning and career development attitudes and competencies.

34. What influence has $(CE)_2$ had on the Tigard School District?

The following information was obtained through an informal interview in August 1974 with Peter Taylor, Assistant Superintendent of the Tigard School District.

During FY 73 several team members from THS who were setting up the school's Alternative Futures program got help from the $(CE)_2$ staff in involving the community in education. They adapted ideas for their program patterned on the $(CE)_2$ Learning Site Analysis Form and the concept of the competencies. The counseling concept in $(CE)_2$ has also been adapted by the staff at Fowler Junior High School as a way of sharing the responsibility across staff members rather than centralizing it in only one or two staff members.

This year some of the District staff have found their association with research and development people from NWREL and with visitors from other parts of the country, such as members of the External Site Review Team, to be rewarding and informative. Some of the THS teachers have mentioned being influenced by the optimism of some of the $(CE)_2$ staff in dealing with students often regarded as problem cases. For next year the Work Release Program at THS is planning to initiate employer seminars patterned after those held by $(CE)_2$. They are also intending to use some employer feedback forms similar to those used in $(CE)_2$. Other possible areas in which $(CE)_2$ might assist the District in the future, according to Taylor, are in sharing information about employer sites and community resources with other career or work experience programs, in serving as a training site for educators interested in the process of exploring various careers and in learning to work more effectively with people in the community.

V. SUMMARY AND RECOMMENDATIONS

Introduction

The quantity and scope of information contained in this FY 74 end-of-year evaluation report makes a brief summary difficult. An attempt will be made, however, to highlight the evaluation findings and to suggest recommendations. References are provided to other sections of this report so that readers can more easily locate a fuller discussion of results summarized here. Another important perspective on findings is contained in Appendix P which presents interpretations of evaluation findings by the $(CE)_2$ staff.

Data contained in this evaluation report generally cover the period of September 1973 to July 1974. This was the second year of operation of this EBCE Project called Community Experiences for Career Education, $(CE)_2$. Approximately 50 juniors and seniors from Tigard High School participated in this project on a full-day basis. Students usually spent half of their time at a learning center working with a professional staff of seven and the other half of their time learning at various employer and community sites.*

Summary of Findings

Students participating in $(CE)_2$ engaged in a number of individualized activities designed to provide meaningful learning experiences in Basic Skills, Life Skills and Career Development. Section III of this report identifies the major program goal outcomes, relates the learning processes designed to achieve each outcome, and discusses the findings related to each outcome.

On the basis of pre- and postadministration of the Comprehensive Test of Basic Skills (CTBS), students participating in the $(CE)_2$ program showed a statistically significant gain in reading, mathematics and study skills during the year. This is particularly impressive since former $(CE)_2$ students the prior year averaged no growth on this instrument. No significant gain this year was registered by $(CE)_2$ students on the Language Mechanics section of the CTBS. When converted to grade level equivalent scores $(CE)_2$ students gained five months in reading, six months in language, seven months in arithmetic and a year and a half in study skills. This compares to a gain by the THS sample of two months in reading, a loss of four months in language and and one month in arithmetic and a gain of seven months in study skills.

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* For a more complete description of the project, the reader is referred to a general information brochure called "Community Experiences for Career Education," available free upon request from the Northwest Regional Educational Laboratory.

Although statistically lower in Basic Skills at the beginning of the school year than a random sample of students enrolled in the regular school program at Tigard High School, $(CE)_2$ students gained slightly more in reading, arithmetic, language expression and study skills on the CTBS than did this comparison group. None of these comparative differences in gains was statistically significant between the two groups.

A sample of eight $(CE)_2$ students who scored below the ninth grade level on the CTBS Reading pretest showed a statistically significant gain when a locally developed Newspaper Reading Exercise was administered to them in January and again in May. A locally developed writing scale, rated on ten criteria, showed no significant growth for $(CE)_2$ students or a comparison group between September and May.

A semantic differential instrument, designed to measure attitudes toward the concepts of "Me," "School," "Adults," "Learning," "Work" and "Decision Making," was administered to $(CE)_2$ students in September, at midyear and again in May. Students demonstrated a statistically significant growth in all six areas during the first half of the year. From midyear to May, however, either the rate of change decreased or a slight drop was indicated. Over the course of the full year, however, statistically significant growth was still maintained for the concepts of "Me," "School," "Learning" and "Decision Making."

The Psychosocial Maturity Scale was administered to all the $(CE)_2$ students and to three comparison groups in the fall. In January, a random half of these groups completed the instrument again. The remaining students responded to the instrument in May. This instrument measures the student's self-rating on the following scales: Work, Self-Reliance, Identity, Communication, Role, Trust, Social Commitment, Tolerance, Openness to Change and Social Desirability (which serves as an internal validity scale). The first semester change in PSM scores for $(CE)_2$ students was dramatic. Scores on all PSM subscales increased significantly with the exception of the Work, Identity, Communication and Social Desirability subscales. The general pattern of change on the PSM follows that noted on the Semantic Differential. The rather dramatic positive change evidenced during the first semester was in part tempered by a slow-down or slight decrease in the second semester. Positive change over the entire year (pretest-posttest) was significant for the Work, Self-Reliance, Communication and Trust scales. The comparative growth over the year for $(CE)_2$ students was not significantly greater, however, than that made by several comparison groups.

The Career Maturity Inventory Attitude Scale was administered to all $(CE)_2$ students in September and then to a random half in February and a random half in May. Change between pretest and midyear means was slight while the change between pretest and posttest was statistically significant. Nevertheless, the staff and evaluators feel that this instrument is not valid for measuring an EBCE program and do not plan to use it next year.

The attendance data for $(CE)_2$ students indicated that this year they were absent slightly less often than when they attended Tigard High School the year prior to their entrance into $(CE)_2$.

In the Life Skills area students completed most of their learning through work on individual projects. Seventy projects were completed in critical thinking, 56 in science, 45 in creative development, 47 in functional citizenship and 57 in personal-social development. Each of these projects had individual objectives and criteria that were applied by the learning managers in evaluating these projects. The evaluation unit reviewed the written evaluation comments of the learning managers and classified such comments into positive, neutral or negative reactions. The percentage of favorable comments ranged from an average of 56 percent for science projects to 36 percent for functional citizenship projects. All students in $(CE)_2$ are expected to engage in activities to improve themselves in critical thinking, science, creative development, functional citizenship and personal-social development. While an opportunity to do this may be available in a regular high school, not all students are expected to interact with each of these Life Skills areas.

Students enrolled in $(CE)_2$ for two years are also required to complete thirteen competencies, such as maintaining a checking account in good order, to graduate from the program. The percentage of all $(CE)_2$ students completing such competencies ranged from 94 percent of the students completing the competency on transacting business on a credit basis to 10 percent of the students completing a competency requiring them to explain their own legal rights and responsibilities. This indicates student perceptions of the interest, difficulty level or importance of each competency. Students averaged completing 5.6 competencies this year as compared with 3 competencies the prior year.

Weekly discussions by the $(CE)_2$ staff regarding observable student behaviors have revealed that many students have grown substantially in assuming responsibility for their actions and in cooperating with program staff and employer instructors. Substantial growth has been noted also in students' ability to communicate effectively with adults and with fellow students.

Case studies* of two $(CE)_2$ students were prepared as a part of the evaluation activities this year. The purposes of the case studies were to give the reader insights into the $(CE)_2$ program that could not be gleaned from quantitative group data and to explore the application of case study methodology using file data supplemented by interviews with the two students.

Copies of the draft case studies, based on over twenty sources of data, were given to the two students, who were asked to read them and verify their

* For the complete case study write-up, see Appendix N.

accuracy. Interviews with the two students were then conducted to fill in any possible gaps in information and to provide more of the human element that file data did not contain. The two case studies, completed on a boy who participated in $(CE)_2$ for his junior year and a girl who graduated in June after spending a year and a half in the program, revealed some interesting insights. Each case study included a description of the background of the student, why he or she entered the $(CE)_2$ program, activities and progress while in the program and student reactions to $(CE)_2$.

The extent to which the employer instructors and project staff got to know the student as a person, built upon his or her interests and encouraged the student to live up to his or her potential, are revealed in these case studies. Likewise, the case studies show the anxieties, struggles, frustrations and personal growth of two young people as they progressed through $(CE)_2$.

At the end of the school year $(CE)_2$ students and those from three comparison groups (a random sample from Tigard High School (THS), a sample from the Occupational Skills Center (OSC) in a neighboring school district and students in the Diversified Occupational Cluster of the THS Cooperative Work Experience (CWE) Program) were asked to complete a questionnaire containing some items related to their feelings about their year's educational experience. Students were asked to rate how helpful they felt their school/$(CE)_2$ experiences this year had been in allowing them to understand more about themselves. On a scale ranging from one (of little or no help) to five (very helpful), 46 percent of the $(CE)_2$ students said "very helpful" as compared with 11 percent from THS, 29 percent from OSC and 7 percent from CWE. When rating how helpful their school/$(CE)_2$ experiences this year had been in helping them to think about their future work plans, 65 percent of the $(CE)_2$ students said "very helpful" as compared with 11 percent from THS, 42 percent from OSC and 13 percent from CWE. When rating the usefulness of their school/$(CE)_2$ experiences in helping to prepare for future learning whether in school or on a job, 42 percent of the $(CE)_2$ students said "very helpful" as compared with 6 percent from THS, 32 percent from OSC and 7 percent from CWE. In rating the relevance of their school/$(CE)_2$ experiences in terms of their personal interests and skills, almost identical figures were obtained as for the prior question. The last two items in this section of the questionnaire asked students to judge the amount of control they felt they had in planning and carrying out their school/$(CE)_2$ experiences, and secondly, the amount of thinking they had done about their school/$(CE)_2$ experiences. In both cases, the $(CE)_2$ students ranked about the same as those in the THS and OSC groups and higher than the CWE group.

Students, staff, parents and employers were asked on different questionnaires to rate the importance and, separately, the effectiveness of the program in accomplishing 15 student learning outcomes. Each of these learning outcomes was given an average rating of three or higher (on a five-point scale) by

students, staff, parents and employers--thus indicating a support for the goals of the program. All four groups considered the following student learning outcomes to be especially important: assuming responsibility for themselves, making decisions and following through, communicating with others in a mature way, working with others, thinking through and solving problems, having a realistic attitude toward self, having a positive attitude toward work and learning, and improving interpersonal and social skills.

The students, staff, parents and employers gave an average rating of three or higher (on a five-point scale) for effectiveness for 11 of 15 student learning outcomes listed. These groups felt the following student outcomes were being accomplished most effectively: performing specific occupational skills, assuming responsibility for themselves, communicating with others in a mature way, working with others and having a realistic attitude toward self.

One of the major strengths noted by the program staff has been growth made by many $(CE)_2$ students in social skills such as assuming more responsibility and increasing their ability to communicate effectively. Last year's $(CE)_2$ graduates have also commented that the program helped them significantly to improve their communication ability. This year's $(CE)_2$ students see program strength as lying primarily in its provision of many opportunities to explore various careers, learn some meaningful skills and be in an environment that is friendly and supportive. They have also indicated that they have encountered no problem in locating and obtaining necessary resource materials. Parents, employers, students and visitors have all remarked that the $(CE)_2$ staff's competence, enthusiasm and concern have been major factors contributing to the program's success. In addition to identifying the staff as a major program asset, many parents indicated on the Parent Opinion Survey that their sons or daughters in $(CE)_2$ had grown in interpersonal relations skills, knowledge about different vocations and interest in education.

Interviews with a stratified random sample of 14 $(CE)_2$ students revealed all but 1 believing that knowledge or skills acquired in $(CE)_2$ would be directly helpful for gaining or holding future jobs. All but 1 of the 14 students were also able to describe specific job skills mastered through $(CE)_2$. When asked to rank the usefulness of the learning procedures used in $(CE)_2$, the students interviewed ranked as most useful actual work on an employer site, working on projects, use of tutors, counseling groups and the student retreat. The staff saw student projects, competencies and student orientation sessions as particularly effective in helping students.

A list of over 200 job skills and experiences gained by $(CE)_2$ students while at employer sites is included in Appendix M. Skills in all occupational areas except the transportation industry are represented. Those areas with the highest number of skills learned are office occupations, education, sales, and mechanics and repairmen.

Because $(CE)_2$ depends heavily on employer involvement, employers' attitudes toward the program are critical. Ninety-four percent of the employer instructors completing the Employer Opinion Survey stated that they plan to continue participating with $(CE)_2$. Many of these employer instructors view this program as a good alternative to regular high school and as an opportunity for students to learn about a variety of careers and see what the "real world" is like.

A comparison of career choices identified by the 14 sampled students during first semester revealed that 39 out of 41 identified choices had actually been covered by exploration levels. One of the exceptions involved a girl who said she was considering being a nurse but hadn't told the $(CE)_2$ employer relations specialist; the second exception involved a student's interest in being an airline stewardess for which no exploration levels could be arranged.

While most of the evaluation findings this year were positive in nature there were also some weaknesses uncovered. Many of the $(CE)_2$ students were behind schedule in completing program requirements, especially student projects. The $(CE)_2$ staff have been acutely aware of this problem and this summer have designed an improved student accountability system that will divide next year into time zones of various lengths with student expectations clearly laid out for each zone.

Employers, parents, staff and visitors were also asked to share problems they perceived in $(CE)_2$ this year. Some employers and a few parents perceived $(CE)_2$ weaknesses in the inability of some students to handle the freedom provided by the program and in their need for more discipline or training in self-motivation. Some employers and parents also expressed the opinion that a better structure or organization might be needed. Half of the operations staff expressed a lack of staff unity as the most notable obstacle limiting the success of the program. Visitors most frequently cited the present program cost as a perceived weakness.

Of the 27 seniors in $(CE)_2$ as of April 25, 1974, 17 graduated, 5 dropped out of the program, 2 will be returning next year to complete program requirements and 3 more may return to complete program requirements. The fact that not all students enrolled in $(CE)_2$ automatically graduate but instead are held accountable for successfully completing the program's learning requirements is perhaps the greatest proof of the competency-based nature of the program.

Student recruitment procedures in April and May for the 1974-75 school year were highly successful. An attempt was made to recruit at least 75 students with a wide range of abilities and aspirations to accurately represent a cross section of students from Tigard High School. Eighty-seven students applied for the program, thus allowing for adequate random sampling

of participant and nonparticipant students for next year. The baseline data collected on the newly admitted $(CE)_2$ students indicates a wide range of abilities and an accurate cross section of students for next year.

Cost data are not included as a part of this evaluation report but will be handled through a separate study being done by a subcontractor to the project.

Recommendations

1. Many of the recommendations for program improvement that could have been made in June are no longer relevant since the operations staff have been keenly aware of problem areas this year and have spent the summer in building improvements into the program. For example, the student accountability system has been thoroughly revised to better communicate to students what is expected of them and to monitor regularly such accomplishments. Weaknesses in the design and execution of student projects have been corrected and some pre-prepared projects developed to better insure student achievement of program outcomes, encourage greater use of employer and community sites for project work, and make more efficient use of learning managers' time in writing and negotiating projects with students. Likewise, meaningful changes have occurred in the competencies, Exploration and Learning Level Packages, and in systems for delivering improvement in Basic Skills.

2. For next year it is recommended that continued care be given to the evaluation of $(CE)_2$ while at the same time evaluating the planning phase of program replication in other school districts.

APPENDICES

List of Appendices

		Page
Appendix A	Description of Instruments	A-1
Appendix B	Procedural Audit Report	B-1
Appendix C	$(CE)_2$ Student Opinion Survey Responses	C-1
Appendix D	Parent Opinion Survey	D-1
Appendix E	$(CE)_2$ Employer Opinion Survey	E-1
Appendix F	Project Director Questionnaire	F-1
Appendix G	Student Background Data	G-1
Appendix H	$(CE)_2$ Staff Questionnaire	H-1
Appendix I	Tabulations of February $(CE)_2$ Student Interviews	I-1
Appendix J	Tabulation of $(CE)_2$ Graduate Interviews and Questionnaires	J-1
Appendix K	Tabulation of Student End of Year Questionnaire	K-1
Appendix L	Tabulation of Nonvolunteer Student Questionnaire	L-1
Appendix M	List of Skills and Experiences Gained by $(CE)_2$ Students on Learning Level Sites Classified by OOH Classification	M-1
Appendix N	Complete Case Study Report	N-1
Appendix O	Descriptions of $(CE)_2$ and Comparison Groups	O-1
Appendix P	Interpretation of Evaluation Findings by $(CE)_2$ Staff	P-1
Appendix Q	$(CE)_2$ Handbook Descriptions	Q-1

Appendix A

DESCRIPTION OF INSTRUMENTS

Three standardized instruments developed and tested by researchers outside the EBCE program were used by NWREL evaluators to assess student achievement, attitudes, and social and career awareness. In addition, a variety of other instruments was developed for use in gathering data from students, parents, employers, visitors to the program, $(CE)_2$ graduates and program operational staff.

Standardized Instruments

Career Maturity Inventory. Developed by Dr. John O. Crites and published by California Testing Bureau/McGraw Hill, the CMI contains an attitude scale and five competence scales. The following definitions were paraphrased by the evaluation staff from the designer's original descriptions of these scales:

1. The Attitude Scale measures the individual's attitude toward making a career choice and entering the world of work. The test assumes that the measures of the "maturity" of an individual's attitude are the degree of his independence and involvement in the choice process and his ability to see work as a meaningful focus of life.

2. Knowing Self measures the ability to project the most appropriate response to a given set of circumstances involving individuals and appropriate career choices.

3. Knowing Job measures the ability to recognize certain careers from descriptions of specific job tasks.

4. Choosing a Job measures how adept an individual is in matching personal characteristics to occupational requirements.

5. Looking Ahead measures the ability to recognize the appropriate sequence of events necessary to prepare one for entry into a variety of careers.

6. What Should They Do measures how effectively the student can cope with problems (i.e., select an appropriate response to a given set of problematic circumstances that arise in the course of career development).

On the basis of careful analysis of the technical manual* accompanying the CMI and answers by staff members from three EBCE labs on a trial run of the test itself, NWREL evaluation staff concluded that major parts of this instrument are inappropriate for evaluation of EBCE programs. For example, an assumption that students are not able to actually "try out" a variety of jobs underlies many of the questions. While this assumption may be justified in many school-based traditional programs, it is certainly contradictory to the major thrust of the EBCE concept. $(CE)_2$ staff and evaluators also question the implication that one may predict the most likely career line of a given individual on the basis of only two or three personal attributes or interests. These objections and requests by administrators of cooperating schools to reduce time required for standardized testing resulted in the decision to omit parts three and five of the CMI Competence Test with all groups tested at midyear. Shortage of testing time also resulted in administration of only the Attitude Scale to the Cooperative Work Experience group. The Attitude Scale was used because it is the scale for which the publisher provides the most technical documentation.

Psychosocial Maturity Scale. Developed by Dr. Ellen Greenberger and associates at Johns Hopkins University, the PSM is based on biological, psychological and sociological models of maturity. The scale measures nine variables contributing to psychosocial "maturity" and yields nine subscores, a total test score and a measure of the validity of the responses. Individuals respond on a four point scale from strongly agree to strongly disagree to statements such as "I believe in working only as hard as I have to." Paraphrased descriptions of the nine variables of psychosocial maturity and the validity scale are given below together with examples of questionnaire items.

1. Work. An individual's standards of competent task performance and his capacity to experience pleasure in work are encompassed by the concept of work. (Example: "I can't think of any kind of job that I would like a lot.")

2. Self-Reliance. Items pertaining to the concept of self-reliance may address one or more of three factors: an absence of excessive dependence on others, a sense of control over one's life and initiative. (Example: "You are probably wrong if your friends are against what you decide.")

3. Identity. The four components of identity are increasing clarity of self-concept, consideration of life goals, internalization of values, and self-esteem. (Example: "I change the way I feel and act so often that I sometimes wonder who the 'real' me is.")

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* Crites, John O., Career Maturity Inventory: Theory and Research Handbook. CTB/McGraw Hill, Monterey, California: 1973.

4. Communications. Communications involves skills in "sending" or encoding verbal and nonverbal messages, skills in "receiving" or decoding verbal and nonverbal messages, and empathy. (Example: "People find it hard to figure me out from what I say.")

5. Role. Knowledge of roles involves both an awareness of obligations inherent in current definitions of major roles and an awareness of priorities that govern the resolution of role conflicts. (Example: "Teachers should not expect as much homework from athletes who have to spend a lot of time at practice.")

6. Trust. Three basic attitudes characterize "enlightened" (credible) trust: general belief in the acceptability of reliance or dependency on others, rejection of simplistic views of the "goodness" or "badness" of human nature, and recognition of individual and situational factors that limit trustworthiness. (Example: "If people are picked in a fair way to be on a trial jury, they are sure to reach a fair decision.")

7. Social Commitment. The dimensions of social commitment are feelings of "community" with others, willingness to modify or relinquish personal goals in the interest of social goals, readiness to form alliances with others to promote social goals, and investment in long-term social goals. (Example: "It's not really my problem if my neighbors are in trouble and need help.")

8. Tolerance. Tolerance involves the person's willingness to interact with individuals and groups who differ from the norm and an ability to be sensitive to their rights. It also involves an awareness of the costs and benefits of tolerance. (Example: "If I had a choice, I would prefer a blood transfusion from a person of the same skin color as mine.")

9. Change. The change variable includes general openness to socio-political change and recognition of the costs of both the status quo and change. (Example: "If everyone is to be really equal, some people will have fewer advantages than they have now.")

10. Social Desirability. (Validity Scale) This variable reflects the tendency to respond in the socially acceptable way. It is not a factor of "maturity" but serves instead as a validity check on responses to other items on the instrument. (Example: "I have never told a lie.")

The version of this inventory used for midyear testing has been revised since the September pretest. Research and analysis of test data by Dr. Greenberger and $(CE)_2$ program evaluators revealed that the test was unnecessarily lengthy. The test was revised by dropping 101 items which were repetitious or had low item-test correlations. The 102 items retained appear exactly as they did in

the original version. Hence, pretests were simply rescored and comparisons were made on these items only. The resultant instrument, although only half as long as the original, still yields valid information on all nine subscales.

Comprehensive Test of Basic Skills. The California Testing Bureau/McGraw-Hill CTBS was used as the primary Basic Skills instrument. Level 4 was chosen for two reasons. First, it was the same level used in the 1972-73 school year for $(CE)_2$ assessment. Since the spring 1973 posttest scores for the returning seniors were used as their fall pretest scores, a consistent level of the test had to be maintained. Secondly, since comparisons were to be made between $(CE)_2$ students and a random sample of Tigard High School students, Level 4 (developed for senior high school students) was deemed most appropriate. This standardized test yields four subscores and a total test score. Raw scores on all subtests have been transformed to an expanded standard score which makes comparisons across the various forms of the test possible.

1. Reading. The reading subtest measures a student's use of vocabulary and his ability to comprehend the meaning of ideas, to interpret what is read, and to recognize the author's intention.

2. Language. The language subtest measures the student's ability to use punctuation, capitalization and spelling correctly and to express himself efficiently and effectively.

3. Arithmetic. The arithmetic subtest measures the student's ability to use the four fundamental arithmetic operations, to recognize and use the appropriate arithmetic concepts (principles, formulae, decimals, exponents, etc.) and to use arithmetic in problem solving.

4. Study Skills. The study skills subtest measures the student's ability to use reference materials (library, dictionary, etc.) and graphic materials (maps, charts, symbols, etc.).

Since the standard error of measurement for the CTBS is rather large, it was agreed that reliable change scores could not be expected on this measure in only a half year. Therefore, the evaluation design calls for administration of the CTBS only in September and May.

Instruments Developed For Use Across All Four EBCE Sites

At the September meeting of evaluators from the four EBCE sites, it was agreed that certain questionnaires would be developed and used commonly across all four EBCE sites. These questionnaires were designed to provide NIE with comparable data from all sites for their use in describing the EBCE program. The perceptions of EBCE students, EBCE graduates, visitors, parents, employer instructors and program administrators are assessed by these instruments. At the meeting, the major areas of focus for each instrument were agreed upon

and responsibilities for developing each instrument were assumed voluntarily by each Laboratory. The various parties agreed to finalize instruments as follows: Research for Better Schools, the student and parent questionnaires; Appalachia Educational Laboratory, the employer questionnaire; Far West Laboratory, the EBCE graduate questionnaire; Northwest Regional Educational Laboratory, the visitor questionnaire; and the NIE evaluation coordinator, the project director questionnaire.

In December the EBCE evaluators from each of the Laboratories met to review drafts of each instrument. These drafts were modified and a final version agreed upon. Except for the EBCE graduate follow-up questionnaire, the commonly-developed instruments were administered at each of the four sites in February.

Student Opinion Survey. The Student Opinion Survey was designed to assess $(CE)_2$ students' attitudes toward work and the EBCE program, reasons for joining the program and learning outcomes of the EBCE program. In addition to the "common" questions on this instrument, NWREL evaluators added some local questions regarding learning level experiences, factors influencing students to join $(CE)_2$ and knowledge about three jobs of potential interest to each student. Questions measuring career knowledge of jobs of potential interest to each student were developed as a more direct measure of student knowledge of careers. This was deemed necessary because the evaluators were concerned about the content validity of the CMI competence scales and because the $(CE)_2$ individualized program does not require that all students learn information about the same careers. To obtain comparative data on these questions, a short questionnaire was also administered to the THS random sample and to the students of the CWE program. A copy of the Student Opinion Survey containing tabulated responses of $(CE)_2$ students to all questions--and responses of THS random sample students and CWE students to questions about career knowledge--is located in Appendix C.

Parent Opinion Survey. The Parent Opinion Survey was designed to assess $(CE)_2$ parents' perception of project strengths and weaknesses, benefits of the program to their son or daughter and the extent of their involvement in the program. A copy of the Parent Opinion Survey containing tabulated responses of $(CE)_2$ parents is located in Appendix D.

Employer Opinion Survey. The Employer Opinion Survey was designed to ask employer instructors for factual information about their work and their interactions with $(CE)_2$ students and how they became involved with $(CE)_2$. Employer instructors were also asked to evaluate students with whom they worked, the impact of $(CE)_2$ within their company, the operation of the program and the perceived importance of selected student learning outcomes. A copy of the Employer Opinion Survey containing tabulated responses of employer instructors is located in Appendix E.

Project Director Questionnaire. The Project Director Questionnaire was completed jointly by the NWREL Career Education Program Director and the $(CE)_2$ Project Director. It contains both factual information and the administrators' opinions about the program, staff, students, employers, unions, community resources, parent contacts and the program advisory board. A copy of the Project Director Questionnaire is located in Appendix F.

Visitor Questionnaire. The Visitor Questionnaire was designed to ask visitors how they first learned about $(CE)_2$, the aspects of $(CE)_2$ they observed, their overall impressions of $(CE)_2$, what aspects of the program they would like to see tried in other school districts, and the areas of $(CE)_2$ about which they would like to receive further information.

Locally Developed Instruments

Student Background Questionnaire. The Student Background Questionnaire was developed in alternate forms for obtaining background information in September for students in the EBCE program and in the comparison groups. In the questionnaire, information about family background, students' previous employment history, short- and long-range educational and work goals, involvement in high school and community activities, hobbies, reading habits and reasons for entering a career/vocational education program were requested. A tabulation of responses by grade level and group is displayed in Appendix G.

$(CE)_2$ Staff Questionnaire. The $(CE)_2$ Staff Questionnaire was administered in February and asked the staff to rate the importance and perceived effectiveness of learning strategies used in $(CE)_2$ and student learning outcomes. It also contained questions dealing with the staffs' perception of factors contributing to and those limiting the success of the program, changes they would suggest in the program, usefulness of various types of assessment or evaluation information, and areas in which students have made greatest and least growth so far this year. A copy of the $(CE)_2$ Staff Questionnaire containing tabulated responses of each of the $(CE)_2$ operations staff is located in Appendix H.

$(CE)_2$ Student Interviews. The structured $(CE)_2$ Student Interview was designed to explore $(CE)_2$ students' attitudes toward the program, to answer certain formative evaluation questions, and to validate January student questionnaire responses to questions regarding particular information about careers they would like to enter. Interview questions focused upon student interactions with staff, knowledge and skills gained in $(CE)_2$, student projects, work in Basic Skills, perceived usefulness of 17 specific learning processes in $(CE)_2$ and student overall attitudes toward the program. Discussion of these findings occurs within various subsections of the formative evaluation section of this report. A copy of the February $(CE)_2$ Student Interviews, containing tabulated responses, is located in Appendix I.

Semantic Differential. The Semantic Differential is an instrument that measures in an indirect way students' feelings about certain concepts. In this case, the concepts of me, school, adults, learning, work, decision making, and community resources were chosen by $(CE)_2$ operations staff and a clinical psychologist as central concepts in the $(CE)_2$ program. Using a 5-point scale, students rated each concept in terms of the following 15 polar adjectives: interesting-boring, unfriendly-friendly, good-bad, easy-difficult, scary-fun, tense-relaxed, reasonable-unreasonable, sad-happy, wise-foolish, irrelevant-relevant, open-closed, painful-pleasurable, important-unimportant, weak-strong, and warm-cold.

$(CE)_2$ Graduate Interview and Questionnaire. A combination telephone interview and brief written questionnaire was designed to obtain some factual information about the present educational and/or vocational activities of the seven $(CE)_2$ graduates of last year, their attitudes about what they had gained from being in $(CE)_2$ and their perceptions of the importance and effectiveness of fifteen learning outcomes. Some of the questions were adopted from the draft questionnaire developed by the Far West Laboratory EBCE evaluation staff. Other questions were based upon the long-range objectives that the evaluators and staff had discussed last summer. A tabulation of the $(CE)_2$ Graduate Interview responses is contained in Appendix J.

Newspaper Reading Exercise. Two parallel forms of an objective-referenced Newspaper Reading Exercise were developed and pilot tested several times this year prior to use with selected $(CE)_2$ students. With the assistance of a local newspaper staff member, two news stories and two editorials were selected as the basis for the instrument. For each form, nine multiple-choice questions were developed to measure the student's ability to recognize the main points of the selection, recognize the author's purpose and locate specific facts and details. This instrument was designed to create a more "real world" task than formal reading tests. The reliability of the Newspaper Reading Exercise, as indicated by the Kudor-Richardson 21 formula, ranged from .56 for 35 seventh graders to .63 for 23 ninth graders. Reliability data for high school students is not yet available. A validity check run on data from a sample of 14 $(CE)_2$ students yielded a correlation coefficient of .70 between scores on the Newspaper Reading Exercise and the CTBS Reading subtest.

Student End of Year Questionnaire. The Student End of Year Questionnaire was administered to $(CE)_2$ and comparison group students at the end of the school year. The instrument was designed for the following purposes: (1) to follow up on questions asked on the Student Background Questionnaire administered at the beginning of the year to assess any change that might have occurred during the year; (2) to assess student knowledge about job trends and related information as a one-time measure to be compared to national norms; and (3) to collect data on student reflections about their school/$(CE)_2$ experiences.

Nonvolunteer Questionnaire. A Nonvolunteer Questionnaire was developed to determine the reasons why some students did not express an interest in $(CE)_2$, what changes would have to be made in the program to make it interesting to them and how adequate the recruitment information was for students. Parental reactions to the program and background information were also requested in the questionnaire.

Appendix B

Included in Appendix B is a letter from Dr. Fred Forster, the independent educational auditor to Ms. Mary Ann Millsap, NIE Coordinator of Evaluation for the EBCE projects. The entire audit report was not available as this report went to press but will be available as separate report in the near future.

September 23, 1974

Ms. Mary Ann Millsap
Evaluation Specialist
Career Education Program
Department of Health, Education, and Welfare
National Institute of Education
Washington, D.C. 20208

Dear Ms. Millsap:

Enclosed is a copy of the audit report for the Final Evaluation Report/Experience-Based Career Education $(CE)_2$ project prepared by the Northwest Regional Educational Laboratory. As you will note, some minor changes and a few alternative statistical techniques have been suggested, but the overall quality of the evaluation effort appears to be excellent.

A copy of this report has been shared with Northwest Regional Educational Laboratory personnel in hopes of supporting their efforts for the coming year.

Respectfully Submitted,

Fred Forster

(Dr.) Fred Forster

FF:dk
Encl.

Appendix C

$(CE)_2$ STUDENT OPINION SURVEY RESPONSES

This survey is meant to give you an opportunity to express your opinions about the Career Education Program you have been participating in. Most of the questions are to be answered on a scale of numbers from ① to ⑤. The words at the top and bottom of each set of questions tell you what the numbers mean. A ① may mean something like "Definitely No"; if you feel very strongly that the answer to the question is NO, then you should circle the ①. A ⑤ may mean "Definitely Yes"; if you feel very strongly that the answer is YES, then you should circle the ⑤. The numbers in between (2,3,4) mean that your opinion is neither "Definitely No" nor "Definitely Yes", but somewhere between them. You should circle the number that is closest to your real opinion of what the question is asking about. Some scales have different words, but they always work the same. Read the words above and below the numbers so you know what the numbers mean. Read the questions carefully, and circle the number which is the closest to your opinion. There are no right or wrong answers; your thoughts and feelings are the important things in this survey. The answers students give will be used to help determine how well the program is doing now and to improve it in the future. Remember to circle a number to answer each item. If you have any questions while you're completing the survey, just ask for assistance.

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION	Definitely No 1	2	3	4	Definitely Yes 5
1. Have you liked attending the Career Education Program?	0*	0*	12*	30*	58*
2. If you had it to do over again, do you think you would decide to participate in the Career Education Program?	2	2	23	16	56
3. Have the activities available in the Career Education Program been interesting to you?	0	0	23	56	21
4. In the Career Education Program have you felt that you could progress at your own rate?	2	5	16	35	42
5. Have you seen much of a relationship between your activities in the learning center and the careers you have learned about?	2	7	30	49	12
6. Do you get enough feedback about how well you are doing in the program?	5	12	14	33	37
7. Have you had enough choice in deciding the amount of time you spend at employer sites?	7	14	9	28	42
8. Have you had enough choice in deciding the amount of time you spend in learning academic subjects?	7	7	23	37	26
9. Have you had enough choice in deciding what you do at employer/resource sites?	2	14	28	30	26
10. Have you had enough choice in selecting the types of employer/resource sites you visit?	0	5	26	26	40
11. Do most people receive much satisfaction from their work?	0	7	30	51	12
12. Do you think that if a person works hard enough, he can achieve anything?	2	0	7	37	53
	Definitely No				Definitely Yes

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

*Figures indicated are percentages of student responses (N = 43)

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION	Definitely No 1	2	3	4	Definitely Yes 5
13. Do you think that the main reason a person works is to earn enough money to live?	2	7	33	33	26
14. In general, are you looking forward to working in a job?	0	12	19	44	26
15. Do you think you have much choice of occupations?	5	5	19	33	40
16. In general, were the employer/resource personnel involved in the Career Education Program aware of your needs and interests?	0	7	35	35	23
17. In general, at employer/resource sites did you get to actually do things, rather than just listen?	0	9	9	26	56
18. In general, have the employer/resource sites you've visited been interested in the Career Education Program?	2	0	21	49	28
19. In general, have you felt welcome at the employer/resource sites?	0	5	26	35	35
20. Do most of the employer/resource sites you have worked with let you know how you're progressing?	2	19	28	35	16
21. Through your experiences in the Career Education Program have you learned a lot about opportunities for the future?	0	2	23	21	53
22. Do you plan to get a secondary school diploma?	12	10	31	12	36
23. Would you say the Career Education Program has helped you form career plans?	0	9	9	28	53
24. Would you say you've learned a lot while attending the Career Education Program?	0	2	14	28	56
	Definitely No				Definitely Yes

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

	Poor 1	2	3	4	Excellent 5
25. How well organized and coordinated do you think the Career Education Program has been?	0	2	37	56	5
26. How would you rate the general quality of the Career Education Program staff?	0	5	7	40	49
27. How would you rate the personal counseling available in the Career Education Program?	0	5	2	12	81
28. How would you rate the career counseling available in the Career Education Program?	2	0	17	45	36
29. How would you rate the general quality of the Career Education Program employer/resources you've worked with?	Poor				Excellent

	Not at all Important 1	2	3	4	Extremely Important 5
30. How important was each of the following factors in deciding to join the Career Education Program?					
a. I wanted more freedom/independence	2	9	16	28	44
b. I wanted to choose my own learning style	5	5	5	51	35
c. I wanted to learn about careers	0	2	2	42	53
d. I didn't like my previous school	9	7	26	19	40
e. I wanted to prepare for a job	5	0	12	37	47
f. I was bored with school	5	19	5	16	56
g. I heard the Career Education Program was easy	40	31	17	10	2
h. Other (specify) _____					
	Not at all Important				Extremely Important

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

PLEASE CIRCLE ONE NUMBER FOR EACH QUESTION

	Much Less 1	2	About the Same 3	4	Much More 5
31. In comparison with regular schools, how much opportunity did the Career Education Program provide you for learning about occupations?	0	0	5	12	84
32. In comparison with regular schools, how much opportunity did the Career Education Program provide you for general learning?	0	5	21	43	31
33. In comparison with past experiences in regular schools, how motivated are you to learn in the Career Education Program?	0	0	12	33	56

34. During this school year have you worked outside of home for money?

a. [19] No

b. [23] Yes, less than 10 hours a week

c. [33] Yes, between 10 and 20 hours a week

d. [9] Yes, between 20 and 30 hours a week

e. [16] Yes, more than 30 hours a week

35. If you have an outside job, does it interfere with anything listed below?

a. [39] I don't have a regular outside job

b. [37] My job doesn't interfere with any other activities

c. [10] It interferes with my school work

d. [15] It interferes with my social life

e. [0] It interferes with my extracurricular activities

36. What changes, if any, would you like to see in the Career Education Program?

--A more organized program (7)*
--Change specific program activities (3)
--Eliminate journals (2)
--Less work (2)
--None/no response (26)

*Numbers in parentheses indicate actual number of students responding, not percentages

37. Below are listed various areas of possible importance for young people to learn. Please rate each in terms of how important you feel it is to learn these things, and how well you feel the program is accomplishing each.

Students learn to:	How Important Do You Feel This Learning Is?					How Effective Do You Feel the Project Has Been in Accomplishing This Learning?				
	Not Important 1	2	3	4	Highly Important 5	Not Effective 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills	0*	5*	14*	33*	48*	0	0	24	41	34
b. Be punctual and organize their time	0	5	14	26	58	2	2	19	43	33
c. Assume responsibility for themselves	0	0	9	23	67	0	0	12	52	36
d. Make decisions and follow through	0	2	5	19	74	2	0	22	27	49
e. Communicate with others in a mature way	2	0	7	28	63	2	0	19	33	45
f. Be aware of more career opportunities	0	2	14	23	60	0	0	12	29	60
g. Work with others	0	0	2	20	78	2	0	12	30	56
h. Evalute their own work	0	4	26	38	32	0	2	30	41	27
i. Perform basic academic skills	2	4	13	41	40	0	0	21	45	34
j. Think through and solve problems	2	0	11	21	66	0	4	20	30	46
k. Have a realistic attitude toward self	0	0	11	25	64	0	2	23	38	37
l. Have a positive attitude toward work	2	0	11	33	54	2	2	24	34	38
m. Have a positive attitude toward learning	0	0	14	19	67	0	0	23	32	45
n. Prepare for further education	2	11	28	26	33	2	7	19	40	32
o. Improve interpersonal and social skills	0	2	24	29	45	0	2	25	32	41
p. Other (please specify)_____ _____										

*Figures indicated are percentages of student responses. Generally, N = 41 to 43.

38. Please check the boxes following each statement which best describe your most recent Learning Level experience.

	Yes	No	Don't Know
Did you sometimes take over a job for a regular employee who wasn't there?	37 *	59 *	4 *
Did you usually work alone?	30	70	0
Were you asked to take on new responsibilities before you were ready?	18	78	4
Did you learn something new most days?	83	11	6
Did you get interested enough in things to try to learn about them off of the employer site?	73	16	11
Did you do more difficult things at the end than when you first started?	69	15	16
Did the employer get upset with you when you made a mistake?	6	85	9
Did the employer tell you when you did a good job?	85	11	4
Were the regular employees bossy?	9	87	4
Did you get clear instructions when you needed them?	100	0	0
Did you do things off the sites with the regular employees you worked with?	32	64	4
Did you ever talk with the people at the site about your opinions and feelings?	61	37	2
Were you free to talk and joke around with the people at work?	96	4	0
Do you think it is now easier for you to talk to adults because you had this experience?	69	19	12
Did you have many different assignments at this site?	83	15	2
Do you think it will be easier for you to work in a regular job because you had this experience?	85	6	9

*Figures indicated are percentages of student responses (N = 42 or 43)

39. Please list three jobs that you feel you might like to hold after completing your education. Under each job indicate how you have learned about the job. For example, if the first job you wrote in was auto mechanic and you have gotten information about it from friends, from reading about it, and from actual work experience, you would put a check mark (✓) in the first column across from numbers 2, 6, and 7.

HOW HAVE YOU LEARNED ABOUT EACH JOB? (Check the categories that apply under each of the three occupations.)

WRITE DOWN THE SPECIFIC JOBS HERE:

_____ _____ _____

		THS N = 36	CWE N = 20	$(CE)_2$ N = 43
1.	From my parents or relatives	36*	23	14
2.	From friends	35	23	21
3.	From someone who works in that job	56	38	46
4.	From a teacher or counselor at school	25	13	32
5.	From a computer information system	2	0	19
6.	From reading about it	48	42	28
7.	Actual work experience	27	15	43
8.	Other reasons_____ _____	13	8	12
9.	None			

*Percentage of jobs using each source of information

40. Write down the same three jobs you listed in the prior question. For each job listed, indicate what you think is the: (1) starting monthly salary, (2) the highest education required (for example, high school graduate, apprenticeship program, college degree, post college professional degree, etc.), and (3) any special skills required (for example, a dentist needs good eye/hand coordination). If you have no idea of the salary or other information about a job, write "Don't Know."

Average Score by Category (Scores range from 0=Don't Know, 1=Some Info, 2=Right On)

Likely Jobs	Starting Monthly Salary			Highest Education or Training Required			Special Skills Required			
	THS	CWE	$(CE)_2$	THS	CWE	$(CE)_2$	THS	CWE	$(CE)_2$	
1. _____	.86	1.05	.56	1.25	.80	.90	.78	.70	.55	_____
							.25	.20	.18	_____
2. _____	.75	.95	.39	1.05	.95	.79	.64	.55	.56	_____
							.19	.25	.23	_____
3. _____	.83	.45	.42	1.03	.10	.70	.80	.20	.37	_____
							.36	.10	.14	_____

41. Many factors and people influence our decisions. How did the following factors or people influence your decision to participate, or not participate, in the $(CE)_2$ program? Circle the number which best describes their influence. For example, if your parents were not influential at all, circle 0; if they encouraged you a lot to participate, circle +3; if they actively discouraged participation, circle -3.

Percentage of Students/Category

		Strong Influence Not to Join $(CE)_2$			No Influence			Strong Influence to Join $(CE)_2$
		-3	-2	-1	0	+1	+2	+3
Influence of Parents	THS	3			85	3	6	3
	CWE		5		74	5	11	5
	$(CE)_2$	5		5	33	9	12	37
Influence of Friends	THS	3	3	14	63	12	3	3
	CWE		11	5	42	26	16	
	$(CE)_2$	2		2	35	26	12	23
Influence of Teachers or Counselors	THS			6	80	3	9	3
	CWE	5			63	5	26	
	$(CE)_2$	5			44	9	12	30
Your Own Concerns About Your Future	THS	14	6	6	54	6	6	9
	CWE	5			58	5	21	11
	$(CE)_2$				7		16	77

THANK YOU FOR YOUR TIME IN COMPLETING THIS SURVEY!

Appendix D

PARENT OPINION SURVEY*

1. How well does the Career Education Program compare overall with the past school experiences of your daughter or son?

Much Worse				Much Better
0	4**	8**	33**	54**
1	2	3	4	5

2. If you had it to do over again, would you want your son or daughter to participate in the Career Education Program?

Definitely NO				Definitely YES
0	4	8	8	79
1	2	3	4	5

3. How well do you think your son or daughter likes the Career Education Program compared with past school experiences?

Much Worse				Much Better
0	0	8	25	67
1	2	3	4	5

4. What do you think are the greatest weaknesses of the Career Education Program?
   - --Lack of structure/not well enough planned (3)***
   - --Parents should be told more (2)
   - --Needs more discipline/training in self-motivation (5)
   - --Not sure/none (4)
   - --Other (3)

5. What do you think are the greatest strengths of the Career Education Program?
   - --Staff-student relationships/quality of the staff (5)***
   - --Individualization/management (4)
   - --On-site jobs/developing interests in various skills (7)
   - --Interesting or good way of getting students to learn (2)
   - --Experience with employers/workers (5)
   - --Other (1)
   - --Not sure/none (1)

*Figures are based on the responses of the parents of 25 students
**Figures represent the percent of respondents choosing each alternative
***Figures represent the actual number of respondents choosing each alternative

6. Have you received enough information about your son or daughter's progress in the Career Education Program?

Definitely NO				Definitely YES
0	8	16	36	40
1	2	3	4	5

7. In comparison with regular schools how much opportunity did the Career Education Program provide your daughter or son for learning about occupations?

Much Less		About the Same		Much More
0	0	4	17	79
1	2	3	4	5

8. What effect, if any, has the Career Education Program had on helping your son or daughter form career plans?

Definitely Bad		No Effect		Definitely Good
0	4	13	30	52
1	2	3	4	5

9. In comparison with regular schools how much opportunity did the Career Education Program provide your daughter or son for general learning (i.e., basic skills and life skills)?

Much Less		About the Same		Much More
0	0	8	42	50
1	2	3	4	5

10. In comparison with past experiences in regular schools how motivated is your daughter or son to learn in the Career Education Program?

Much Less		About the Same		Much More
0	0	17	25	58
1	2	3	4	5

11. How would you rate the approaches to learning used in the Career Education Program?

Poor				Excellent
0	0	17	25	58
1	2	3	4	5

12. What positive changes have you noticed in your son or daughter that might be a result of participation in the Career Education Program?
--More confident and optimistic about self and future (3)***
--Better interpersonal relations/more mature (10)
--More interested in education (7)
--More interested in knowledge about jobs (4)
--None (3)
--Other (2)

13. What negative changes have you noticed in your son or daughter that might be a result of participation in the Career Education Program?
--None (18)***
--Other (3)

14. How often does your son or daughter talk to you about what's going on in the Career Education Program?

Almost Never				Almost Daily
8	4	36	16	36
1	2	3	4	5

15. Before entering the Career Education Program, how often did your son or daughter talk to you about what was going on in the regular school?

Almost Never				Almost Daily
30	13	26	9	22
1	2	3	4	5

16. About how often have you had any contact with any Career Education Program staff members?

Almost Never				Very Frequently
8	28	32	20	12
1	2	3	4	5

17. How many meetings have you attended during this school year where other parents of Career Education students were present?

None			4 or More
57	14	24	5	0
	1	2	3	

***Figures represent the actual number of respondents choosing each alternative

18. How would you rate the general quality of the Career Education Program staff?

Poor				Excellent
0	0	0	55	45
1	2	3	4	5

19. How would you rate business and community resources available in the Career Education Program?

Poor				Excellent
0	0	0	30	70
1	2	3	4	5

20. How would you rate your overall relationship with the staff of the Career Education Program?

Poor				Excellent
0	4	17	35	43
1	2	3	4	5

21. How would you rate the enthusiasm of the Career Education Program staff?

Poor				Excellent
0	0	0	18	82
1	2	3	4	5

22. What do you think of the occupational plans of your daughter or son?

a. [63] There aren't any firm plans yet.

b. [4] The plans should be changed.

c. [29] The plans seem to be good.

d. [4] We haven't really had a chance to discuss the plans.

23. What do you think your son or daughter will be doing a year after high school?

a. [38] Working

b. [29] Attending some kind of college

c. [25] Going to a business or trade school

d. [8] Military

e. [ ] Other (please specify)_____

24. Below are listed various areas of possible importance for young people to learn. Please rate each in terms of how important you feel it is to learn these things, and how well you feel the program is accomplishing each.

Students learn to:	How Important Do You Feel This Learning Is?					How Effective Do You Feel the Project Has Been in Accomplishing This Learning?				
	Not Important 1	2	3	4	Highly Important 5	Not Effective 1	2	3	4	Highly Effective 5
a. Perform specific occupational skills	0	0	16	20	64	0	4	26	22	48
b. Be punctual and organize their time	0	0	0	16	84	0	13	25	38	25
c. Assume responsibility for themselves	0	0	0	4	96	0	4	25	38	33
d. Make decisions and follow through	0	0	4	4	92	0	8	29	21	42
e. Communicate with others in a mature way	0	0	0	16	84	0	8	4	42	46
f. Be aware of more career opportunities	0	0	4	24	72	0	0	8	25	67
g. Work with others	0	0	0	16	84	0	0	8	46	46
h. Evalute their own work	0	0	4	40	56	0	9	23	32	36
i. Perform basic academic skills	0	0	8	20	72	4	8	25	21	42
j. Think through and solve problems	0	0	4	4	92	4	4	17	35	39
k. Have a realistic attitude toward self	0	0	0	24	76	4	0	21	33	42
l. Have a positive attitude toward work	0	0	0	12	88	4	4	13	33	46
m. Have a positive attitude toward learning	0	0	4	8	88	4	8	13	29	46
n. Prepare for further education	0	0	20	20	60	4	4	29	29	33
o. Improve interpersonal and social skills	0	0	12	28	60	0	4	21	38	38
p. Other (please specify)_____ _____										

25. How did you first hear about the Career Education Program?
--Notice from high school (6)***
--From child (10)
--From former $(CE)_2$ students or their relatives (3)
--Other (3)

26. What kind of students do you think benefit most from Career Education Programs?
--Student not happy in a regular high school (9)***
--All kinds (7)
--Students unsure of themselves or who need individual attention (4)
--Self-motivated, students who want to learn (4)
--Other (2)

27. What problems, if any, has your son or daughter encountered in the Career Education Program?
--Managing freedom and getting work done (7)***
--Personal (2)
--Getting interesting job sites (2)
--None (12)
--Other (4)

28. If problems were listed in answer to the above question, how effective do you feel the staff was in helping to resolve these problems?

Not Effective				Highly Effective	
0	0	6	38	56	N=15
1	2	3	4	5	

29. What types of knowledge, skills or attitudes has your son or daughter acquired in the Career Education Program that you feel he or she would not have gotten from a regular high school?
--Specific competencies/skills (4)***
--Confidence in self and abilities (5)
--Knowledge about different vocations/on job training (8)
--Better exposure to working and dealing with people (9)
--Personal attention (4)
--Other (2) --None (2)

30. What changes, if any, would you recommend for the Career Education Program?
--Be more demanding/organized (5)***
--Expand (scope and number of students) (2)
--None (7)
--Other (5)

***Figures represent the actual number of respondents choosing each alternative

Appendix E

$(CE)_2$ EMPLOYER OPINION SURVEY

Name of respondent _____

Title of respondent _____

Name of company _____

Type of company _____

Address of company _____

	Number of Employees			
	1-10	11-25	26-100	100 or more
Number of employees in the company	40	22	16	22 (N=60)
Number of employees at the experience site	52	25	13	10

Length of time respondent has been participating with $(CE)_2$ 9.5* months (N=60)

---

1. When the student is on an exploration or learning level at your site, approximately how many hours do you typically spend with the student? (Man-hours per week)

   Number of hours for exploration level 5.9* (N=59) Hours for learning level 6.0* (N=30)

2. Which of the following supportive services do you (or others at your site) provide for the $(CE)_2$ students? Check each appropriate category.

	Exploration Level (N=60)	Learning Level
Do you talk about job opportunities?	82**	61**
Do you talk about the students personal problems?	28	41
Do you talk about activities at your site?	83	78
Do you tutor in an academic area?	8	37
Do you evaluate individual student's assignments?	30	83
Do you assist students in non-job-related assignments?	13	32
Do you supervise students to perform a specific job-related task at your site?	32	85
Do you help plan student assignments?	27	67
Other (specify) _____	3	5

*average number

**all numbers are percentages of those responding unless stated otherwise

3. How do students spend their time at your site? Indicate the approximate number of hours per week for each category. If they are doing more than one thing at the same time, split the hours.

	Exploration Level	Learning Level
Observing site activities	_____	_____
Researching from site materials	_____	_____
Actively performing site activities	_____	_____
Talking with me	_____	_____
Talking with other site personnel	_____	_____
Individual study	_____	_____
Other (specify) _____	_____	_____

NO VALID DATA FOR THIS QUESTION

4. How did you become involved with $(CE)_2$? Check appropriate response(s).

51* $(CE)_2$ personnel contacted me about the program

3 A student talked to me about the program

1 Another employer talked to me about the program

5 Company personnel talked to me about the program

7 Other (specify) _____

5. Why did you become involved with the program?

--Thought we could help students/worthwhile program (62)
--Felt participation was of mutual student-industry benefit (11)
--Service to community (5)
--Asked to be involved (11)
--Other (9)
--None (2)

N=56

*represents the number of employers choosing each response--some respondents chose more than one option

6. Did the $(CE)_2$ staff provide you with enough information to help you to direct student activities at your site?

80 yes 20 no (N=60)

If you answered no, what information would have been helpful?
--Problems understanding my function (5)
--Problems organizing and coordinating with $(CE)_2$ (1)
--Other (10) --None (3)

7. Would you recommend to a potential employer or resource person that he/she also become involved with the $(CE)_2$ program? (N=54)
--Yes (100) Why: --$(CE)_2$ program is worthwhile (26)
--No (0) --May be of mutual benefit for student and institution (19)
--May be of benefit to institution (7)
--Other (17)

8. Describe the type of person you think should be involved with $(CE)_2$ students.
--Willing to give time and help (9)*
--Knowledgeable about jobs (9)
--Has extra time for this (5)
--Able to teach students/personable (13)
--Like working with young people (12)
--Other (12)
--None (2)

9. To what extent has $(CE)_2$ had an impact on the following items?

	How Much Impact				Value of Impact		
	No Impact	Some Impact	Much Impact (N=50)	Don't Know	Good Impact	Bad Impact (N=24)	Don't Know
a. Quality of work performed by regular employees	66	26	--	8	45	5	50
b. Amount of work performed by regular employees	60	26	10	4	54	12	35
c. Company hiring practices	76	20	--	4	33	0	66
d. Company training practices	58	27	10	5	59	0	41
e. List other possible impacts:							
_____							
_____							
_____							

*represents the number of employers choosing each response--some respondents chose more than one option

10. In general, do you think $(CE)_2$ students you have worked with are really interested in your site? Circle the appropriate number from 1 (definitely no) to 5 (definitely yes).

Definitely NO				Definitely YES
5	18	32	25	20
1	2	3	4	5

N=57

11. In general, do you think the $(CE)_2$ students you have worked with are really interested in the $(CE)_2$ program?

Definitely NO				Definitely YES
0	4	24	41	31
1	2	3	4	5

N=52

12. How have employees at your site reacted to participation with $(CE)_2$? Check one.

40	Positive reaction	3	No reaction
2	Negative reaction	5	Not applicable
40	Mixed reaction	10	Don't know

N=60

13. In what ways (if any) have the employees at your site benefited? Check one or more appropriate response(s):

18*	They haven't benefited
29	Increased their awareness of youth
1	Motivated the regular employees to further training
7	Reduced their workload
7	Increased interested in their own work
5	I don't know
11	Other (specify)_____

14. Do you receive adequate feedback about what happens to the students after they leave your site? Circle a number from 1 (never) to 5 (always).

Never				Always
36	30	21	4	9
1	2	3	4	5

N=47

15. Do you receive adequate feedback about the effectiveness of your work with the students?

Never				Always
18	37	16	12	17
1	2	3	4	5

N=49

*represents the number of employers choosing each response--some respondents chose more than one response

16. Below are listed various areas of possible importance for young people to learn. Please rate each in terms of how important you feel it is to learn these things, and how well you feel the program is accomplishing each.

Students learn to:	How Important Do You Feel This Learning Is? Not Important 1	2	3 (N=55)	4	Highly Important 5	How Effective Do You Feel the Project Has Been in Accomplishing This Learning? Not Effective 1	2	3 (N=40)	4	Highly Effective 5
a. Perform specific occupational skills	7	7	28	15	43	0	10	40	33	18
b. Be punctual and organize their time	6	0	4	26	64	9	21	28	28	14
c. Assume responsibility for themselves	4	0	4	20	72	2	8	34	32	22
d. Make decisions and follow through	2	2	6	22	67	5	15	43	20	17
e. Communicate with others in a mature way	4	2	5	25	64	2	7	24	41	24
f. Be aware of more career opportunities	2	4	24	28	43	0	5	19	36	40
g. Work with others	4	2	2	27	65	0	2	24	43	31
h. Evalute their own work	2	4	17	37	41	0	11	55	24	11
i. Perform basic academic skills	5	5	22	33	35	5	11	45	34	5
j. Think through and solve problems	2	5	5	31	56	2	7	49	34	7
k. Have a realistic attitude toward self	6	2	11	15	66	2	5	28	52	13
l. Have a positive attitude toward work	4	2	5	24	65	5	8	28	42	17
m. Have a positive attitude toward learning	4	2	2	29	64	0	3	33	50	15
n. Prepare for further education	5	5	22	40	27	5	10	38	33	14
o. Improve interpersonal and social skills	4	4	25	31	37	3	5	47	27	18
p. Other (please specify)_____ _____										

17. How many times and ways have you communicated with staff during this school year? Check as many as apply.

	Individual Meetings	Group Meetings	Telephone	Correspondence
Almost every day	3*	2	3	0
Once or twice a week	10	1	13	0
Once or twice a month	22	19	24	17
Less than once a year	6	9	2	5
Never	2	2	1	1

18. Do you plan to continue participating with $(CE)_2$?

94 yes 6 no (N=52)

WHY?
--Project is worthwhile (50)
--Like the idea and people of $(CE)_2$ (7)
--Challenging to me (5)
--Community service (7) (N=42)
--Staff problem (5)
--Other (23)
--No response (3)

19. What do you think are the greatest strengths of $(CE)_2$?
--$(CE)_2$ personnel/organization (19)
--Good alternative to high school (23)
--Help students learn about variety of careers (11) (N=54)
--Help student learn about "real life" situations (11)
--Other (20)
--No response (16)

20. What do you think are the greatest weaknesses of $(CE)_2$?
--Some students can't handle the freedom (25)
--Problems in organization (28)
--May not provide sufficient coursework for chosen profession (5) (N=40)
--Needs more time on job site (5)
--Too much paper work (5)
--Students are not receiving sufficient training (5)
--Other (20) --None (7)

21. How many students would your site be able to handle at one time for an exploration level?

--Number of students:	1	2	3	4	5	6	7	8
--% of employers:	61	19	5	7	--	4	2	2

(N=54)

*represents the number of employers choosing each response

22. What do you see as the primary factor(s) limiting the number of students your site could adequately handle for an exploration level? (For example, limited space, supervisory personnel, available equipment, etc.)

--Space/equipment (24)*
--Personnel--might disrupt other workers (29)
--Lack of time to work with students (5)
--Other (6)
--Problems in implementing program (6)
--None (1)

23. To what extent do you feel you were able to identify student deficiencies in basic skills such as reading and mathematics?

Not at all able				Very able
15	13	31	26	15
1	2	3	4	5

N=53

24. How do you usually handle discipline problems with the students?

a. [31] Handle it myself
b. [6] Refer student to program personnel
c. [8] Consult with program personnel
d. [55] There have been no problems

N=62

25. What do you feel students are able to learn on job sites that they could not learn as well in a regular school classroom?

--First-hand knowledge of demands of a realistic situation (52)
--Working with other people (14)
--Self-discipline (8)
--On the job activities (14)
--Other (12)

N=59

26. What other comments or recommendations about $(CE)_2$ would you like to make?

--Doing a fine job (29)
--Better organization with employers (16)
--Change the experience at employer site (10)
--Better screening and training of students (19)
--Other (19)
--None (7)

N=31

*represents the number of employers choosing each response--some respondents chose more than one response

THANKS FOR YOUR TIME IN COMPLETING THIS SURVEY

Appendix F

PROJECT DIRECTOR QUESTIONNAIRE

Respondent Information

Name Rex Hagans and Jerry Beier

Position Program Director and $(CE)_2$ Project Director

Organization NWREL and $(CE)_2$

This questionnaire is designed to obtain common program data for the four Experience Based Career Education (EBCE) projects. Some of this information is already available but not in a common format; the rest is new information.

This information will be used as a partial description of the projects for the March Interim Evaluation Report, as background information for the R and D Monograph, and for other public relations purposes.

Unless otherwise specified, the time period for use is the current academic year (1973-74).

Would you please give one completed copy to your Evaluation Director and send one copy to me, preferably by February 27. If you have any questions or comments, please call Mary Ann Millsap at 202-254-5054.

FULL-TIME STAFF MEMBERS

STAFF

1. In the boxes below, please list every member of your professional staff in one place only. Indicate the number of staff in each category and indicate the percent of time spent in contact with students. Where more than one staff member is listed per category, please indicate the average percent of time spent in direct contact with students.

POSITION	NUMBER OF FULL-TIME STAFF**	PERCENT OF TIME SPENT IN DIRECT CONTACT WITH STUDENTS
(Learning Manager) Learning Coordinators	2	see main body of Evaluation Report
(Student Coordinator) Counselors	1	for information about operational vs.
Aides	1	developmental time allocations.
(Project Director) Administrators	1	
Evaluation Specialists	none	
Curriculum Specialists		
Employer Relations Specialists	2	
(Learning Resources Specialist) Library/media Specialists	1	
Clerks/secretaries	1	
Other (please specify below) Project Assistant	1	
Van Driver	1	
*TOTAL FULL-TIME STAFF	11	

*Should match number of persons assigned to contract, excluding part-time positions.

**This question does not accommodate the unique organizational pattern employed at $(CE)_2$ which provides that operations and design are both "hats" that professionals must wear. NWREL staff are not shown here. See attached organizational chart.

PART-TIME STAFF MEMBERS

2. Complete this chart in the same manner as the one above. Indicate the number of staff in each category and indicate the percent of time spent in contact with students. Where more than one staff member is listed per category, please indicate the average percent of time spent in direct contact with students.

POSITION	NUMBER OF PART-TIME STAFF	PERCENT OF TIME SPENT IN DIRECT CONTACT WITH STUDENTS
Learning Coordinators	none	
Counselors	none	
Aides	none	
Administrators	none	
Evaluation Specialists	none	
Curriculum Specialists	none	
Employer Relations Specialists	none	
Library/media Specialists	none	
Clerks	none	
Other (please specify below) Tutors	by the hour	
TOTAL PART-TIME STAFF		

3. For those professional staff who are in direct contact with students at least 75 percent of their time, please indicate how many:

	Number
a. Are certified public secondary school teachers	7
b. Have previous teaching experience in secondary schools	7
c. Have previous experience in innovative or alternative schools	7
d. Have previous experience in individualized instruction	8
e. Have previous experience in interdisciplinary or team teaching	5
f. Have accredicted private school credentials	0
g. Are certified guidance counselors	2
h. Have, as highest degree earned, a Bachelor's Degree	6
i. Have, as highest degree earned, a Master's Degree	2
j. Have as highest degree earned, a Doctorate Degree	0

4. If you had an additional $25,000 in personnel salaries, where would you put it (re both professional and clerical needs)?

For the entire program (both $(CE)_2$ and NWREL), I would put it into the writing - product preparation function. However, if per pupil costs were not a factor, I would add learning managers.

EMPLOYER CONTACTS

For each of the following three questions, please check the appropriate frequency.	Almost Everyday	About Once or Twice a Week	About Once Every Two Weeks	Less Than Once Every Two Weeks	Usually Not at All
5. Approximately how often are students observed by a representative of the program during Level I experiences?	☐	☒	☐	☐	☐
6. Approximately how often are students observed by a representative of the program during Level II experiences?	☐	☐	☒	☐	☐
7. Approximately how often are students observed by a representative of the program during Level III experiences?	☐	☐	☐	☐	☐

$(CE)_2$ term: Exploration Level

Initial explorations are visited--as students become more efficient, none are visited.

$(CE)_2$ term: Learning Level

$(CE)_2$ students have not as yet chosen Level III: Skill Building

8. Do students keep a time card or sign-in sheet which is signed off by their employer (s)?

Level I	Level II	Level III
a. [x] Yes	a. [x] Yes	a. [ ] Yes
b. [ ] No	b. [ ] No	b. [ ] No

9. Do students keep a log of what activities they engage in on a daily or weekly basis?

Level I	Level II	Level III
a. [x] Yes	a. [x] Yes	a. [ ] Yes
b. [ ] No	b. [ ] No	b. [ ] No

10. Are individual project assignments given to students approved in advance by the employer?

Level I	Level II	Level III
a. [x] Yes	a. [x] Yes	a. [ ] Yes
b. [ ] No	b. [ ] No	b. [ ] No

11. Are individual project assignments completed by students approved by employers in writing before the students are credited with the work being completed?

Level I	Level II	Level III
a. [x*] Yes	a. [x*] Yes	a. [ ] Yes
b. [ ] No	b. [ ] No	b. [ ] No

*portions of the project are approved

12. How many written performance appraisals do employers typically complete for students during the course of each of the following levels of experience?

	Level I	Level II	Level III
They must certify exploration package accuracy.	a. ☐ One	a. ☐ One	a. ☐ One
	b. ☐ 2 or 3	b. ☒ 2 or 3	b. ☐ 2 or 3
	c. ☐ More than three	c. ☐ More than three	c. ☐ More than three
	d. ☐ None	d. ☐ None	d. ☐ None

13. Approximately how many hours per week are students involved in the total program? 30 is the target. This varies by student--some exceed.

14. What is the approximate break down of time at employer sites and time at the program site?

	Level I	Level II	Level III
Percent of time at program site?	49%	49%	
Percent of time at employer site?	38%	38%	
Percent of time in other activities?	13%	13%	
Total	100%	100%	100%

If this varies for different grade levels of students, please explain below.

15. How many students have completed at least one:

Level I experience 45 (most have completed 3 or more; 5 new students completed 0)

Level II experience all students are on ongoing sites

Level III experience _____

STUDENT SELECTION

16. What were the factors considered in selecting students for your program? Please describe below.

We have accepted most volunteers, although we have attempted to increase the number of "self directed" students in relation to the total student body.

17. How many students are currently enrolled in the program?

Part-time students _____

Full-time students 50

18. Were you able to accept all students who applied for the program this year?

a. ☐ Yes

b. ☒ No

19. Was your planned enrollment

a. ☒ Met

b. ☐ Not met

c. ☐ Exceeded

By how much? +_____ -_____

20. What enrollment do you anticipate next year at this time? ____

50

CREDIT ASSIGNMENTS

Describe the process by which students are granted academic credits for individualized work assignments.

21. Who decides what assignments should contribute towards academic credit?

xxx Career education program personnel

School district personnel

Both

Other (please specify) _____

22. How is it decided how many credits should be awarded and in what subjects?
Staff members translate program experiences into recommendations for credits--no credit awards are made directly.

23. About how many hours of work constitute a single unit of credit?

About _____hours

DOES NOT APPLY

No set number, but usually varies

from _____to _____hours

24. Does anyone outside of the program review the academic credits which have been awarded students for completion of different assignments?

No

_____Local school district personnel

_____State school personnel

_____Advisory committee

_____Employers

_____External curriculum specialist (for sample of students)

_____Other (please specify)_____

25. What school's name is on the student's diploma?

_____Career education program

xxx Local high school

xxx Other (please specify) Certificate also given by $(CE)_2$

26. What different types of diplomas are granted?

xxx Only one diploma for all students

_____Academic

_____Business

_____Vocational

_____General

_____G.E.D. (get GED from other agency)

_____Other (please specify)_____

If more than one, what are the differences in requirements between them?

27. Have there been any problems about getting colleges, the State, or other institutions to recognize credits/diplomas granted by the program?

a. [ ] Yes

b. [X] No

If yes, please explain.

28. Have some students dropped out of the program voluntarily since September 1973?

a. [X] Yes

b. [ ] No

If yes, please indicate the number of instances for each of the reasons listed below.

	Number of instances
Student unwilling to complete program assignments	1
Student unhappy with program	1
Parents unhappy with program	1
Reasons beyond student's control (e.g., family moved out of district)	
Other (please specify) got married and left town	1
Wanted to return to high school	5

If yes, how long on the average did they stay in the program?

one semester

If yes, what did the students do after leaving the program?

	Number of instances
Returned to regular high school	5
Joined the military	1
Obtained a full-time job	1
Nothing	
Other (please specify) married	1
ran away from home	1

29. Have some students been involuntarily terminated from the program since September 1973?

a. [x] Yes

b. [ ] No

If yes, how many? two

On the average, how long did they stay in the program?

one semester

If yes, please indicate the number of instances for each of the reasons listed below.

	Number of instances
Unwilling to complete program assignments	1
Inability to do program work	
Disciplinary problems	
Excessive absences, latenesses	
Inappropriate dress	
Crime	1
Problems with employers (please specify)_____	
_____	

EMPLOYERS

30. Approximately how many employer/resource persons have accepted students for Level I experiences? 74

31. Approximately how many employer/resource persons have accepted students for Level II experiences? 33

32. Approximately how many employer/resource persons have accepted students for Level III experiences? 0

33. Are employers reimbursed for any expenses incurred because of the program?

a. ☐ Yes

b. ☒ No

If yes, please explain and give approximate amounts

some last year--none this year

34. Have any employers requested that students be dropped from their work site?

a. [X] Yes

b. [ ] No

If yes, how many 3

If yes, please check the reasons.

a. [ ] Student dress

b. [X] Behavior towards regular employees

c. [ ] Behavior towards customers

d. [ ] Behavior towards other students at site

e. [X] Latenesses/absences

f. [ ] Theft

g. [ ] Safety violations

h. [ ] Insufficient training

i. [ ] Inability to handle tasks

j. [X] Other (please specify) disinterest

35. Do students ever perform tasks that would otherwise have to be assigned to a regular employee?

Level I	Level II	Level III
a. [x] Never	a. [x] Never	a. [ ] Never
b. [ ] Rarely	b. [ ] Rarely	b. [ ] Rarely
c. [ ] Sometimes	c. [ ] Sometimes	c. [ ] Sometimes
d. [ ] Frequently	d. [ ] Frequently	d. [ ] Frequently

36. Have any students been paid for work done as part of the program?

Level I	Level II	Level III
a. [ ] Yes	a. [ ] Yes	a. [ ] Yes
b. [x] No	b. [x] No	b. [ ] No

37. Have any students in the program been hired by employers for work on weekends, summers, or after school?

a. [x] Yes

b. [ ] No

If yes, about how many instances have there been of this? _____

many--20 to 25

38. Do employers receive any training regarding their role in the program before students are sent to them?

a. [x] Yes

b. [ ] No

If yes, about how many hours of training? 8 hours per year

39. Have informational materials been developed which explain to employers their role in the program?

a. [X] Yes

b. [ ] No

40. How many employers have dropped out of the program? 18

Check the reasons given by employers for dropping the program.

	Number of instances
Decline in business	0
Program too time consuming	6
Program too expensive	1
Complaints from customers	0
Union problems	0
Problems with students	2
Business under new management	1
Other (please specify) involved in other career ed programs	5
unknown	3

41. How many unions have become involved with the program? _____
Does not apply, except that the Board of Directors includes 3 labor representatives.

42. How many unions are serving as learning resourses for students?

Level I 1 Level II 1 Central Labor Temple

Level III _____

ADVISORY BOARD

43. How many persons from each of the following groups are represented on the advisory board?
The $(CE)_2$ Board of Directors is legally responsible for the program.

	Number of Representatives
Employers in program	6
Employers not in program	--
Union officials at plants in program	--
Union officials at plants (or locals) not in program	3
Political figures	--
School administrators	--
Parents	1
Other (please specify) students	1
community representative	1
school district representative	1

44. How often does the advisory board meet?

a. ☐ Weekly or more often

b. ☐ 2 or 3 times a month

c. ☒ Monthly

d. ☐ Quarterly

e. ☐ Annually

The Board meets monthly. A number of advisory task forces meet as needed.

ADVISORY BOARD

43. How many persons from each of the following groups are represented on the advisory board?
The $(CE)_2$ Board of Directors is legally responsible for the program.

	Number of Representatives
Employers in program	6
Employers not in program	--
Union officials at plants in program	--
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Political figures	--
School administrators	--
Parents	1
Other (please specify) students	1
community representative	1
school district representative	1

44. How often does the advisory board meet?

a. ☐ Weekly or more often

b. ☐ 2 or 3 times a month

c. ☒ Monthly

d. ☐ Quarterly

e. ☐ Annually

The Board meets monthly. A number of advisory task forces meet as needed.

45. Does the advisory board have subcommittees or special interest groups that meet at other times than the regular advisory board meetings?

a. [x] Yes

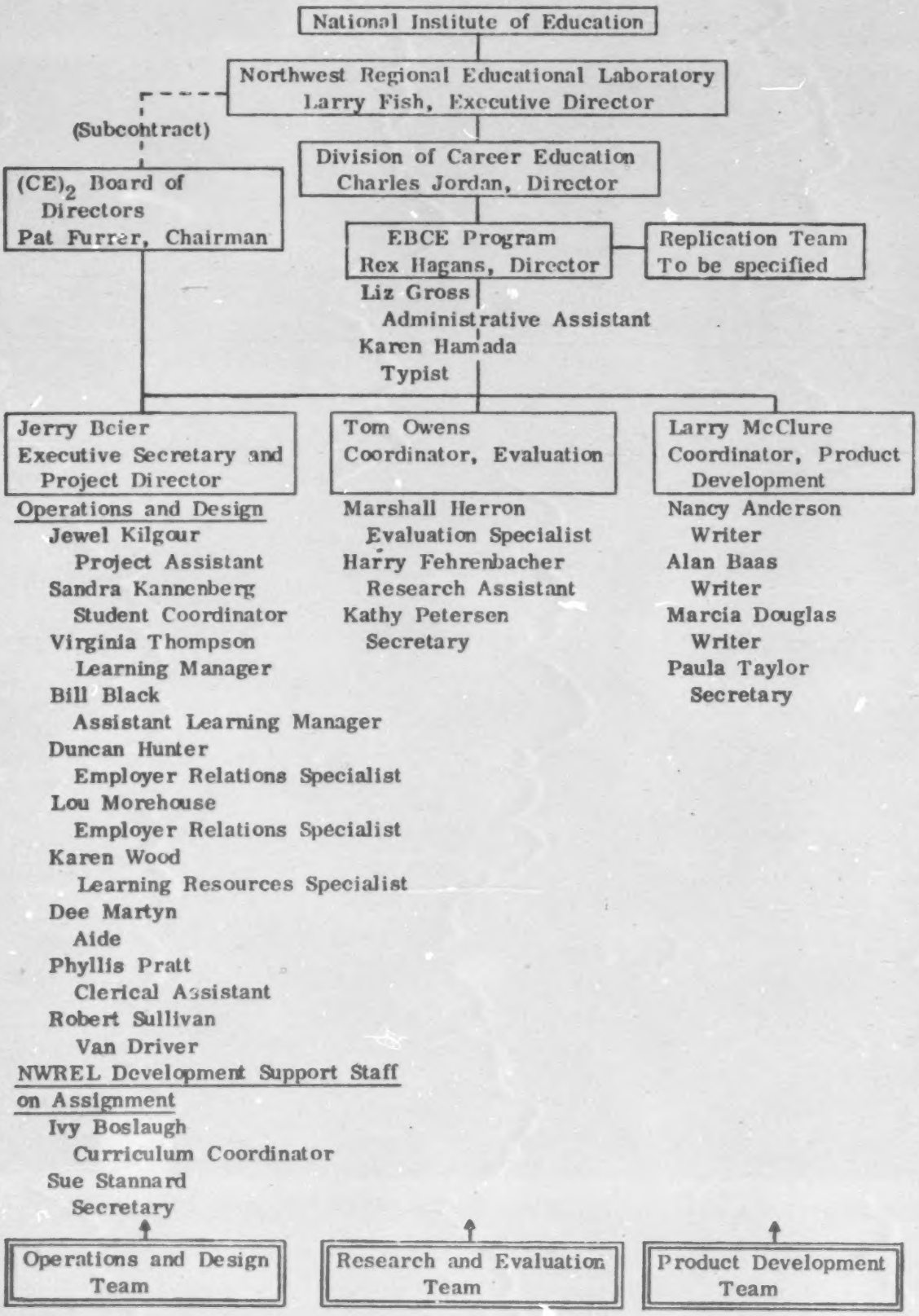
b. [ ] No

46. Please check those roles that the advisory board has re the following program components.

	None	Advisory	Determining Policy
Program operations	[ ]	[ ]	[x]
Curriculum development	[ ]	[x]	[ ]
Graduation requirements	[ ]	[ ]	[x]
Other (please specify)_____	[ ]	[ ]	[x]

personnel, transportation
corporation relationship
fiscal responsibility

HOW THE NWREL/$(CE)_2$ EBCE PROGRAM IS ORGANIZED



Appendix G

STUDENT BACKGROUND DATA

The following charts display student background information collected by questionnaire in September from students in $(CE)_2$, the Cooperative Work Experience program, the Tigard High School random samples and the Occupational Skills Center sample. A review of characteristics of students in these four groups is useful in understanding any evaluation data presented in this Interim Report.

Variable	Values	OSC 11 N	OSC 11 %	OSC 12 N	OSC 12 %	OSC Total N	OSC Total %	THS_1 11 N	THS_1 11 %	THS_1 12 N	THS_1 12 %	THS_1 Total N	THS_1 Total %	CWE 12 N	CWE 12 %	$(CE)_2$ 11 N	$(CE)_2$ 11 %	$(CE)_2$ 12 N	$(CE)_2$ 12 %	$(CE)_2$ Total N	$(CE)_2$ Total %
Sex	Male	31	62	33	66	64	64	15	60	12	50	27	55	12	48	12	57	13	42	25	48
	Female	19	38	17	34	36	36	10	40	12	50	22	45	13	52	9	43	18	58	27	52
No. of Siblings	0	3	6	1	2	4	4	3	12	1	4	4	8			1	5	3	10	4	8
	1	10	20	10	20	20	20	5	20	3	13	8	16	2	8	2	10	6	19	8	15
	2	15	30	14	28	29	29	6	24	6	25	12	24	6	25	4	19	8	26	12	23
	3	11	22	11	22	22	22	7	28	5	21	12	24	8	33	6	29	7	23	13	25
	4	8	16	4	8	12	12		0	5	21	5	10	3	13	4	19	5	16	9	17
	5	1	2	5	10	6	6	1	4	1	4	2	4	1	4	1	5	1	3	2	3
	6			3	6	3	3							1	4	1	5	1	3	2	3
	7	2	4			2	2	1	4	2	8	3	6	1	4						
	8							1	4	1	4	2	4			1	5			1	2
	9			1	2	1	1	1	4			1	2			1	5			1	2
Sibling Rank	Oldest	11	23	12	24	23	23	6	26	8	33	14	30	2	8	7	35	9	29	16	31
	Youngest	17	35	12	24	29	29	6	26	4	17	10	21	12	48	4	20	8	26	12	23
	Neither	20	42	26	52	46	46	11	48	12	50	23	49	11	44	10	45	13	42	23	44
Previous Employment	Yes	35	71	44	88	79	80	22	88	22	92	44	90	25	100	16	84	28	90	44	85
	No	14	29	6	12	20	20	3	12	2	8	5	10			3	16	1	3	4	8
No. of Previous Jobs	0	5	13	1	2	6	7														
	1	18	45	11	25	29	35	4	19	10	48	14	33	3	13	8	53	7	23	15	29
	2	13	32	17	39	30	36	9	43	6	29	15	36	5	21	3	20	13	42	16	31
	3	3	7	7	16	10	12	5	24	5	24	10	24	10	42	3	20	7	23	10	19
	4	1	2	8	18	9	11	3	14		0	3	7	6	25	1	7	1	3	2	4
Reasons for Working	Support Family							1	5			1	2			1	7	3	10	4	8
	Money for Expenses	32	91	33	75	65	82	14	64	16	73	30	68	20	83	12	80	24	77	36	69
	Experience	2	6	8	18	10	13	3	14	5	23	8	18	2	8	2	13	2	6	4	8
	Other	1	3	3	7	4	5	4	18	1	5	5	11	2	8						
Previous Work-Study Participation	Yes	3	8	20	44	23	28			1	5	1	2			1	7	1	3	2	4
	No	34	92	25	56	59	72	22	100	21	95	43	98			14	93	27	87	41	79
Previous Job Awareness	In School	13	27	13	26	26	27	17	68	9	38	26	53	5	20	3	14	7	23	10	19
	Outside School	9	19	14	28	16	23	2	8	5	21	7	14	10	40	4	19	4	13	8	15
	None	26	54	13	46	40	50	6	24	10	42	16	33	10	40	14	67	20	65	34	65

STUDENT BACKGROUND DATA continued

Variable	Values	OSC 11 N	OSC 11 %	OSC 12 N	OSC 12 %	OSC Total N	OSC Total %	THS[1] 11 N	THS[1] 11 %	THS[1] 12 N	THS[1] 12 %	THS[1] Total N	THS[1] Total %	CWE 12 N	CWE 12 %	(CE)[2] 11 N	(CE)[2] 11 %	(CE)[2] 12 N	(CE)[2] 12 %	(CE)[2] Total N	(CE)[2] Total %
	Full-time Work	9	21	12	29	21	25	5	20	6	40	11	22	11	44	3	16	16	52	19	36
	Apprenticeship	5	11	11	27	16	19			1	4	1	2	2	8	4	21	14	45	18	34
Short	Military	5	12	3	7	8	10	3	12	3	13	6	12	2	8	2	11	2	6	4	8
Range	Homemaker	1	2			1	1							2	8			2	6	2	4
Goals	Voc, Tech or Trade Sch	6	14	8	20	14	17	3	12	1	4	4	8	5	20	3	16	14	45	17	32
	Academic at JC	5	12	5	12	10	12	2	8	3	13	5	10	2	8	2	10	6	19	8	15
	Voc at JC	3	7	8	19	11	13	1	4	2	8	3	6	3	12			2	6	2	4
	College	12	26	8	19	20	23	12	48	14	58	26	53	2	8	3	16	4	13	7	13
	Part-time Work	15	33	12	28	27	31	7	28	2	8	9	18	2	8	4	21	5	16	9	17
	Other	5	12	3	7	8	10	1	4	2	8	3	6	2	8	1	5	4	13	5	10
	Don't Know	7	16	2	5	9	11							3	12	4	21	4	13	8	15
	Hollingshead's SES																				
	1 Executive	5	10	6	12	11	11	8	32	2	8	10	20	4	16	3	14	2	6	5	10
Long	2 Manager	10	20	11	22	21	21	7	28	8	33	15	31	3	12	5	24	3	10	8	15
Range	3 Administrator	10	20	7	14	17	17	1	4	4	17	5	10	2	8	1	5	5	16	6	12
Goals	4 Clerical	3	6	5	10	8	8	1	4	1	4	2	4	4	16	3	14	2	6	5	10
	5 Skilled	7	14	13	26	20	20	2	8	2	8	4	8	2	8	4	19	3	10	7	13
	6 Semi-skilled	3	6	2	4	5	5	2	8	1	4	3	6	2	8			3	10	3	6
	7 Unskilled	1	2	2	4	3	3							2	8						
	8 Don't Know	9	18	2	4	11	11	3	12	5	21	8	16	6	24	5	24	10	32	15	29
	9 Housewife	2	4	2	4	4	4	1	4	1	4	2	4					1	3	1	2
	NIE Categories																				
	1 Clerical			2	4	2	2	2	9			2	4					1	3	1	2
Father's	2 Craftsman	11	22	10	20	21	21	5	22	3	13	8	17	5	21	6	32	3	10	9	17
Occupation	3 Farmer							1	4			1	2								
	4 Homemaker																				
	5 Laborer	4	8	2	4	6	6	2	9	1	4	3	6	3	13	2	11	6	19	8	15
	6 Manager, Admnstrator	8	16	8	16	16	16	3	13	7	29	10	21	5	21	2	11	4	13	6	12
	7 Military			2	4	2	2									1	5	2	6	3	6
	8 Operative	11	22	8	16	19	19	2	9	2	8	4	9	4	17	3	16	3	10	6	12
	9 Professional	2	4	7	14	9	9	2	9	5	21	7	15	2	8	2	11	3	13	4	10
	10 Proprietor	4	8			4	4			1	4	1	2	4	17	1	5	1	4	2	5
	11 Protective Service	1	2			1	1	1	4	1	4	2	4					2	6	2	4
	12 Sales	5	10	9	18	14	14	2	9	3	13	5	11	1	4	2	11	3	10	5	10
	13 Service	1	2			1	1			1	4	1	2								
	14 Technical	2	4	2	4	4	4	3	13			3	6					1	3	1	2
	NIE Categories																				
	1 Clerical	8	17	9	19	17	18	8	35	3	14	11	25	6	26	4	20	3	10	7	13
Mother's	2 Craftsman	1	2			1	1			1	5	1	2								
Occupation	3 Farmer																				
	4 Homemaker	28	60	22	47	50	50	12	52	15	71	27	61	10	43	9	45	14	45	23	44
	5 Laborer			1	2	1	1														
	6 Manager, Admnstrator	2	4	2	4	4	4			1	5	1	2	1	4	4	20	2	6	6	12
	7 Military																				
	8 Operative													1	4			2	6	2	4
	9 Professional	3	6	2	4	5	5	1	4			1	2	2	9	2	10	2	6	4	8
	10 Proprietor			1	2	1	1	1	4			1	2	1	4						
	11 Protective Service															1	5			1	2
	12 Sales	2	4	4	8	6	6	1	4			1	2	1	4			2	6	2	4
	13 Service	2	4	4	8	6	6			1	5	1	2					1	3	1	2
	14 Technical	1	2	2	4	3	3							1	4			1	3	1	2

STUDENT BACKGROUND DATA continued

Variable	Values	OSC 11 N	OSC 11 %	OSC 12 N	OSC 12 %	OSC Total N	OSC Total %	THS1 11 N	THS1 11 %	THS1 12 N	THS1 12 %	THS1 Total N	THS1 Total %	CWE 12 N	CWE 12 %	(CE)2 11 N	(CE)2 11 %	(CE)2 12 N	(CE)2 12 %	(CE)2 Total N	(CE)2 Total %
No. of High School Activities Last Year	0	18	36	15	30	33	33	12	48	10	42	22	45	18	72	9	43	19	61	28	54
	1	18	36	22	44	40	40	4	16	6	25	10	20	5	20	8	38	10	32	18	35
	2	10	20	9	18	19	19	3	12	2	8	5	10	1	4	3	14	1	3	4	8
	3	3	6	4	8	7	7	2	8	1	4	3	6	1	4	1	5			1	2
	4	1	2			1	1	4	16	4	17	8	16					1	3	1	2
	5									1	4	1	2								
No. of High School Activities This Year	0	17	34	28	56	45	45	10	40	13	54	23	47	23	92	17	81	26	84	43	83
	1	16	32	14	28	30	30	9	36	5	21	14	29	1	4	1	5	3	10	4	8
	2	13	26	6	12	19	19	1	4	1	4	2	4	1	4	3	14			3	6
	3	2	4	2	4	4	4	3	12	1	4	4	8					2	6	2	4
	4	2	4			2	2	2	8	3	13	5	10								
	5									1	4	1	2								
No. of Community Organizations	0	41	82	37	74	78	78	20	80	20	83	40	82	22	88	18	86	23	74	41	78
	1	8	16	11	22	19	19	4	16	4	17	8	16	3	12	3	14	8	26	11	21
	2	1	2	2	4	3	3														
	3							1	4			1	2								
No. of Current Hobbies	0	2	4	3	6	5	5			2	8	2	4	2	8	2	10	2	6	4	8
	1	6	12	5	10	11	11	5	21	2	8	7	15	3	12	4	19	4	13	8	15
	2	14	28	12	24	26	26	6	25	6	25	12	25	5	20	3	14	7	23	10	19
	3	15	30	16	32	31	31	5	21	10	42	15	31	11	44	8	38	5	16	13	25
	4	11	22	11	22	22	22	8	33	2	8	10	21	3	12	4	19	11	35	15	28
	5	2	4	2	4	4	4							1	4						
	6									2	8	2	4					1	3	1	2
	7																	1	3	1	2
Enjoy Reading	No	9	18	3	6	12	12	3	13	4	17	7	15	8	32	8	38	4	13	12	23
	Sometimes	27	54	25	50	52	52	11	46	10	42	21	44	11	44	9	43	15	48	24	46
	Usually	14	28	22	44	36	36	10	42	10	42	20	42	6	24	4	19	12	39	16	31
No. of Books Read	0	3	6	2	4	5	5	3	12			3	6			3	14	2	6	5	10
	1 or 2	12	24	6	12	18	18	4	16	4	17	8	17	8	32	7	33	6	19	13	25
	3-5	11	22	11	22	22	22	4	16	5	22	9	19	8	32	5	24	8	26	13	25
	6-10	12	24	12	24	24	24	7	28	10	43	17	35	5	20	2	10	6	19	8	15
	11-20	9	18	6	12	15	15	3	12	2	9	5	10	2	8	2	10	4	13	6	12
	20 or more	3	6	13	26	16	16	4	16	2	9	6	13	2	8	2	10	4	13	6	12
Newspaper Reading	Never	10	20	6	12	16	16			3	14	3	6	3	12	3	19	8	26	11	21
	Bi-weekly	24	48	23	46	47	47	14	56	8	36	22	47	14	56	13	62	13	42	26	50
	Daily	16	32	21	42	37	37	11	44	11	50	22	47	8	32	4	19	10	32	14	27
Newspaper Sections Read	Sports	22	44	28	56	50	50	16	64	10	42	26	53	6	24	5	26	13	42	18	35
	Fashion	6	12	4	8	10	10	4	16	8	33	12	24	4	16	2	11	6	19	8	15
	Front Page	36	72	45	90	81	81	21	84	20	83	41	83	20	80	14	67	20	65	34	65
	Comics	34	68	38	76	72	72	24	96	16	66	40	82	21	84	17	81	27	87	44	85
	Editorial	4	8	13	26	17	17	7	28	6	25	13	27	6	24			2	6	2	4
	News Columnist	2	4	4	8	6	6	2	8	5	21	7	14	3	12	3	16	3	10	6	12
	Other	6	12	6	12	12	12	6	24	7	29	13	27	8	32	6	32	13	42	19	35
Ethnic Background	White	49	98	48	96	97	97	20	83	22	96	42	89	23	92	17	89	30	100	47	96
	Black													1	4						
	Oriental	1	2			1	1									1	5			1	2
	Spanish Surname							2	8			2	4	1	4	1	5			1	2
	American Indian			2	4	2	2	2	8			2	4								
	Other									1	2	1	2								

STUDENT BACKGROUND DATA continued

Variable	Values	OSC 11 N	OSC 11 %	OSC 12 N	OSC 12 %	OSC Total N	OSC Total %	THS[1] 11 N	THS[1] 11 %	THS[1] 12 N	THS[1] 12 %	THS[1] Total N	THS[1] Total %	CWE 12 N	CWE 12 %	(CE)[2] 11 N	(CE)[2] 11 %	(CE)[2] 12 N	(CE)[2] 12 %	(CE)[2] Total N	(CE)[2] Total %
Father's Education	None	1	2			1	1											1	3	1	2
	Elementary	1	2	2	4	3	3	1	4			1	2			5	26	7	23	12	24
	Some High School*	9	18	7	14	16	16	5	20	2	9	7	15	5	21						
	High School Graduate	17	34	17	34	34	34	9	36	5	22	14	29	5	21	2	10	7	23	9	18
	Some College	13	26	15	30	28	28	3	12	4	17	7	15	5	21	4	21	6	20	10	20
	College Graduate	1	2	1	2	2	2	4	16	9	39	13	27	3	13	3	15	5	16	8	16
	Graduate Work*	1	2	1	2	2	2			1	4	1	2	2	8						
	Advanced Degree*			2	4	2	2	2	8			2	4	4	17						
	Don't Know	7	14	5	10	12	12	1	4	2	9	3	6			5	26	4	13	9	18
Mother's Education	None																	5	16	5	10
	Elementary			1	2	1	1									2	10			2	4
	Some High School*	7	14	1	2	8	8	2	8	1	4	3	6	4	17						
	High School Graduate	27	54	31	62	58	58	14	56	13	54	27	55	8	33	5	26	11	36	16	32
	Some College	9	18	10	20	19	19	4	16	6	25	10	20	5	21	6	31	7	23	13	26
	College Graduate	3	6	1	2	4	4	2	8	3	13	5	10	3	13	4	21	2	6	6	12
	Graduate Work*	2	4	1	2	3	3	1	4			1	2	1	4						
	Advanced Degree*													1	4						
	Don't Know	2	4	4	8	6	6	2	8	1	4	3	6	2	8	2	10	5	16	7	14
First Reason for Entering Special Program	1 Learn about careers	3	6	7	14	10	10							7	33	4	19	3	10	7	13
	2 Explore what I can do	4	9	1	2	5	5									1	5	2	6	3	6
	3 Prepare for job	23	49	28	57	51	53							3	14	3	14	3	10	6	12
	4 Bored with school	3	6			3	3							2	10	4	19	6	19	10	19
	5 Independence	1	2	1	2	2	2							2	10	2	10	4	13	6	12
	6 Choose own learning style	1	2	1	2	2	2							2	10	2	10	2	6	4	8
	7 Tired of learning same thing			1	2	1	1									4	19	5	16	9	17
	8 Explore job opportunities	5	11	2	4	7	7							1	5	1	5	5	16	6	12
	9 Other	7	15	8	16	15	16							4	19						
Second Reason for Entering Special Program	1	6	13	3	6	9	9							3	15	2	10	2	6	4	8
	2	6	13	12	24	18	19							1	5	2	10	1	3	3	6
	3	5	10	8	16	13	13							5	25	1	5	8	26	9	18
	4	7	14	4	8	11	11							1	5	2	10	3	10	5	10
	5	3	6	3	6	6	6							2	10	2	10	5	16	7	13
	6	3	6	3	6	6	6							1	5	2	10	5	16	7	13
	7	5	10	2	4	7	7							2	10	5	24	8	26	13	25
	8	10	20	11	22	21	21							5	25	1	5	2	6	3	6
	9	1	2	2	4	3	3														
Third Reason for Entering Special Program	1	6	12	5	10	11	11							4	20	1	5	2	6	3	6
	2	6	12	10	20	16	16							3	15	2	10	2	6	4	8
	3	7	14	2	4	9	9							3	15	2	10	4	13	6	12
	4	6	12	5	10	13	13							2	10	2	10	2	6	4	8
	5	2	4	9	18	11	11							2	10	4	19	6	19	10	19
	6	5	10	4	8	9	9							1	5	3	14	4	13	7	13
	7	5	10	4	8	9	9							1	5	2	10	7	23	9	17
	8	8	16	7	14	10	10							3	15	1	5	2	6	3	6
	9	3	6	2	4	6	6							1	5	1	5	2	6	3	6

*No category was included on the $(CE)_2$ questionnaire for Some High School, Graduate Work or Advanced Degree.

Appendix H

$(CE)_2$ STAFF QUESTIONNAIRE

This brief questionnaire is intended to obtain the opinions of each of the $(CE)_2$ staff about the goals, procedures, and outcomes of $(CE)_2$. The second item in this questionnaire has been administered in identical form to all students, parents and employer instructors. Information from this questionnaire will be summarized and included in the March Interim Evaluation Report. It will also be shared with the documentation staff. Since all of you are twice as busy as the students, we are giving you a questionnaire only half the length as the student one. Thanks for your time and responses.

1. Listed below are the learning strategies used in $(CE)_2$. Please rate each in terms of how important you feel it is for $(CE)_2$ students and secondly in terms of how effectively you feel it has been implemented this year. If you have comments you would like to add about any of these strategies, please identify the specific strategy and write your comments on the back of this sheet.

Learning Strategies:	How Important for $(CE)_2$ Students?					How Effectively Has It Been Implemented?				
	Not Important				Highly Important	Not Effective				Highly Effective
	1	2	3	4	5	1	2	3	4	5
a. Student Orientation			1	3	4			5	2	1
b. Student Accountability System			1		7		3	4	1	
c. Student Negotiation				3	4		2	1	1	3
d. Project				1	7			3	5	
e. Journals		2	4	1			4	1	3	
f. Competencies				3	4			3	4	
g. Exploration Package				4	3		1	4	2	
h. Learning Level Process					7	1	1	4	1	
i. Learning Level Package			1	3	4	1	3	4		
j. Tutors		2	1	1	4		5	1	2	
k. Employer Seminars			6	2		2	2	1	3	
l. Group Activities			2	3	2	2	1	1	2	
m. Others (please list)_____										

2. Question 2 has already been summarized in Table 33, p. 92 of this report.

3. What factors, if any, have you seen this year that are contributing in a major way to the success of the $(CE)_2$ program? For example, the cooperation of most employers, appeal of certain tutors, etc.

--Staff is more aware of, and comfortable with, program expectations (2)*
--Commitment of employers, board of directors, progressive staff and good program concepts (2)
--Efforts and concern of the staff (2)

4. What obstacles, if any, have you seen this year that are limiting the success of the $(CE)_2$ program?

--Lack of unity on the part of the staff (4)
--Lack of direction and inconsistencies in program (2)
--Conflict of developmental and operational staff (1)
--Instability of the program (1)
--Students have difficulty functioning when they must be self-motivated (1)
--Too many meetings (1)

5. What changes, if any, in $(CE)_2$ staffing patterns would you suggest for next year?

--More responsibility, independence and decision-making power to the operations staff (2)
--Replacements in some positions (1)
--Less students per learning manager (1)
--None (1)

6. What staff or student forms now being used in the $(CE)_2$ program do you feel could be eliminated without decreasing the efficiency of operations?

--None, at least I can't think of any (3)
--Journals (2)
--Time accounting (2)
--Much evaluation data (1)
--Student/learning manager conference form (1)

7. What student assessment or evaluation information have you found useful this year? How have you used the information?

--Basic skills assessment (CTBS) (5)
--"Student staffing" information (2)
--Self-Directed Search and the computer (1)
--Haven't seen much-formative information is usually late and irrelevant (1)

*Numbers in parentheses ( ) indicate the frequency of a response.

8. What additional types of assessment or evaluation information would you like to receive? How frequently?

--Thorough assessment of the life skills area before the start of the school year (2)
--More specific information on student status at job sites (1)
--Some measure of individual student growth (1)

9. In what areas do you feel the $(CE)_2$ students have made the greatest growth so far this year? Why?

--Social skills (5)
--Personal growth and understanding (2)
--Learning to be responsible for their actions (1)

10. In what areas do you feel the $(CE)_2$ students have made the least growth so far this year? Why?

--Systematic study of career opportunities and work trends (2)
--Management of personal tasks (1)
--Accountability and willingness to make a commitment (1)
--Commitment of "community" experiences (1)

11. What additional changes, not already covered in this questionnaire, would you like to see made in $(CE)_2$?

--More selective student recruitment (3)
--Redefinition of personal and professional characteristics needed for each staff position (2)
--More stable planning (1)

Appendix I

TABULATION OF FEBRUARY $(CE)_2$ STUDENT INTERVIEWS

1. a. Do you feel that the project staff are concerned about you as an individual?

Yes (14) No (0)

Comments:

They are concerned about her problems (2)
They show an interest in every student (1)

b. Do they know more about you than teachers did at THS?

Yes (14) No (0)

c. In what ways are the $(CE)_2$ staff helping you the most?

They help him/her to solve personal problems (6)
They are available and willing to explain work activities (5)
Pushing him/her to complete work (3)
Giving individual attention when needed (2)
Being a friend (2)
Planning for the future (1)
Identifying skills he/she has and needs (1)
Money management (1)
In completing competencies (1)
They have gotten her interested in learning (1)

d. Are there other things that you feel they could do to help you more?

Yes (0) No (14)

Comments:

It would be helpful if they weren't so involved in non-student things (2)
They are always willing to help (1)
Hire an additional LM (1)

The number in parentheses ( ) indicate the frequency of a response or comment.

2. a. Do you feel that you have acquired any knowledge or skills in $(CE)_2$ so far that would be directly helpful for gaining or holding a future job?

Yes (13) No (1)

b. If yes, what?

Welding (2)
Ability to talk openly with people (2)
Driving a fork lift (1)
Working with (teaching) small children (1)
Ability to frame pictures (1)
Photo development (1)
The competencies (1)
Typing (1)
Carpet laying (1)
General knowledge of T cycle engines (1)
Already received a job offer from an employer at an exploration level site (1)
Filing (1)
Operating a cash register (1)
Manual dexterity with small objects (1)
Ability to use assembly room equipment (1)
Automobile painting (1)
Auto body repair (1)
Keypunching (1)
Greater self confidence (1)
Operating a telephone switchboard (1)

3. a. Do you feel you are asked to fill out too many forms and reports in $(CE)_2$?

Yes (5) No (7) Sometimes (2)

b. Are there any forms you complete that you think should be eliminated or combined with others?

Yes (10) No (4)

Comments:

Some questionnaires about students' feelings get boring to complete (3)
The journals should be eliminated (3)
Reduce the weekly journal requirements from three pages to one and a half pages (1)

3. b. Comments: (continued)

The journal was helpful at the beginning of the year in helping to plan his day but isn't necessary now since he covers the same information in greater depth by talking with the LM (1)
Student Opinion Scale (1)
Semantic differential--don't understand why it's important (1)
Project requirements take too long (1)
All those from the Laboratory (1)

4. a. Are the procedures used by the staff to get students to complete program requirements (such as journals or projects) working okay?

Yes (14) No (0)

b. If no, how could they be improved?

5. a. Do you feel you are able to locate the resource materials necessary for working on your projects?

Yes (13) No (1)

Comments:

He receives help only from the LM (1)

b. Where do you usually get the materials?

Tigard High School Library (8)
Multnomah County Library (7)
From $(CE)_2$ files or Learning Resource Specialist (4)
Portland State University Library (4)
Tigard Public Library (3)
Directly from employers (2)
From the Learning Manager (2)
Bought own books (1)
Lewis and Clark College (1)
Writes to sources (1)

c. Have you also gotten information for your projects by talking directly with employers or people in the community?

Yes (8) No (6)

5. c. Comments:

She could get such information if she wanted to (2)
Employers seem happy to talk or give materials if you tell them why you want them (1)
Photography project was done completely at a job site (1)
Hasn't gotten project information from employers yet but will soon (1)

6. a. How much involvement do you feel you have in selecting your own learning goals while developing projects?

Much (11) Some (3) None (0)

Comments:

Plans them himself (1)
She selects topics from a LM's list of projects (1)
Sometimes he suggests topics, other times the LM suggests topics (1)

b. How do you go about negotiating a project with the learning manager?

"All students were able to successfully describe how they identified or selected topics, met with the learning manager to add or delete specific objectives, and had some choice in negotiating the scope and focus of the project."
She pushes the LM to write up projects for her (1)

c. Do you have enough freedom in selecting how you're going to go about working on the project?

Yes (14) No (0)

7. a. How well do you feel you are doing in basic skills such as reading, spelling and mathematics?

Okay (8)
Pretty good except in mathematics (3)
Not too good in reading or spelling (1)
Haven't received any progress report in this area but haven't asked for it (1)
Pretty good (1)
Same level as in high school (1)

b. What help have you received in these areas?

Math tutor (7)
None but hasn't asked for any help/Don't need any help (3)
Got help in spelling from some books given by Student Coordinator and by talking with her (1)
None yet but will start on a project including basic skills soon (1)
The LM gave her a spelling book and incorporated spelling into a project (1)
Writing in journals encourages him to write more (1)
Projects have helped her read more (1)
Programmed text in record keeping (1)

c. How much progress do you feel you are making?

Math has improved quite a bit (4)
A little (3)
Reading more (2)
His reading comprehension is improving (1)
Vocabulary has improved (1)
Doing much better now in spelling (1)
Staying at an acceptable level (1)

d. Are there other things you might do in basic skills in $(CE)_2$ to help yourself?

No (3)
Could do more reading for projects (2)
Could work with a math tutor but he doesn't have time (1)
No, but the staff are willing to let her try anything (1)
Tutors are available but she hasn't worked with any yet (1)
Study spelling (1)
Needs help in spelling but hasn't asked for it yet (1)
The LM is encouraging him to start work with a reading tutor (1)
Planning to work with a tutor for reading and spelling (1)

e. Have employers helped you identify any basic skills that you need to work on?

Yes (3) No (11)

Comments:

Math (1)
Spelling (1)
Vocabulary recognition (1)

7. f. Have they helped you with any basic skills?

Yes (3) No (11)

Comments:

Got help in geometry in regard to welding circuit boards (1)
Employer helped her with mathematics related to pricing and taking customer orders. The employer explained the procedure, gave her math problems and corrected her work. (1)

8. Here is a sheet showing the various learning processes in $(CE)_2$. Let's cross off any that you have not yet used. Please take a minute to rate each process as High, Medium or Low in terms of how useful you think it is in helping you to learn. As you go through the list feel free to comment out loud on any ones you care to.

LEARNING PROCESSES		HOW USEFUL FOR YOUR LEARNING H	M	L	NOT USED
a.	Exploration package	(2)	(8)	(4)	
b.	Learning package	(7)	(3)	(3)	(1)
c.	Employer/community tutors	(9)	(3)	(1)	(1)
d.	Employer seminars	(3)	(7)	(4)	
e.	Counseling groups	(6)	(2)	(0)	(6)
f.	Negotiating (planning) projects	(8)	(5)	(1)	
g.	Working on projects	(11)	(3)	(0)	
h.	Student journal	(2)	(6)	(6)	
i.	Using the computer	(0)	(8)	(2)	(4)
j.	Competencies	(6)	(8)	(0)	
k.	Actual work on an employer site	(14)	(0)	(0)	
l.	Student retreat	(8)	(4)	(0)	(2)
m.	Testing and assessment	(2)	(10)	(2)	
n.	Student orientation	(3)	(9)	(1)	(1)

9. a. Overall do you feel that $(CE)_2$ is a good program for you?

Yes (14) No (0)

b. Why?

A chance to explore jobs (3)
She enjoys the friendly atmosphere (2)
Can plan what he wants to learn and do it at his own rate (1)
Job explorations are important but the program doesn't provide enough discipline for getting tasks done (1)
If at THS, she wouldn't have learned about art work or practical things like maintaining a checking account (1)
In HS he wouldn't have known what work he would want to do after graduating but through $(CE)_2$ he has decided on a career (1)
It helped her decide on some important things in life (1)
He had academic problems in high school and skipped school a lot whereas he is learning useful things in $(CE)_2$ and attending almost every day (1)
He is learning more than he would have at high school and wanted to get out of high school because it was too easy (1)
$(CE)_2$ has helped her learn practical things like filing, talking with people and operating a cash register (1)
Likes to work on projects (1)
Has helped her be more open to others (1)

Appendix J

TABULATION OF $(CE)_2$ GRADUATE INTERVIEWS AND QUESTIONNAIRES

1. What were the things you found most rewarding about $(CE)_2$?

   --Exposure to different jobs (4)
   --Personal development (3)
   --Style of teaching (2)
   --Student-staff relationship (1)

2. What was the most helpful aspect of the $(CE)_2$ program for you?

   --Work experience-site visit (3)
   --Staff and counseling (3)
   --Personal development (2)
   --Specific skills (1)

3. Do you feel that you "missed out" on anything by leaving the regular school program?

   --Yes (4)
   --No (1)

   What?

   --Contemporary problems class (2)
   --Loss of math skills (2)
   --Loss of association with high school friends (2)
   --Typing class (1)

4. If you could change one thing about your $(CE)_2$ experience, what would it be?

   --Stay in longer (3)
   --I would have worked harder (1)
   --I would have visited more jobs (1)
   --I would have gotten placed at a different job (1)

5. Has your $(CE)_2$ experience helped, hurt or not affected your skills in reading, math or communication?

	Helped	Hurt	Not Affected
Reading	(1)	(0)	(4)
Math	(0)	(1)	(4)
Communication	(5)	(0)	(0)

Numbers in parentheses ( ) indicate frequency of responses.

6. In what way has your $(CE)_2$ experience influenced your work habits?

--Communicate better (3)
--Can explore job better (2)
--Budget time better (1)
--Learned to dig right in (1)
--No benefit of program (1)

7. Has your $(CE)_2$ experience helped, hurt or not affected your ability to get to know and communicated with people?

--Helped (5)

Why?

--Site visits (3)
--Staff (1)
--Student interaction (1)

8. Since leaving $(CE)_2$ have you had a checking account, or filed an income tax form, or done things similar to this?

--Yes (5)

Has your $(CE)_2$ experience helped, hurt or not affected your ability to do these things?

--Helped (4)
--Not affected (1)

9. If you had a friend in high school in the same position as you were in before joining $(CE)_2$, would you recommend to him to join $(CE)_2$?

--Yes (5)

Why?

--I enjoyed $(CE)_2$ (2)
--I was tired of high school (1)
--For work training (1)
--If self motivated (1)
--If academically weak (1)

10. What are you now doing? (work, school, etc.)

--Work only (2)
--School only (1)
--Work and school (2)

11. How do you feel about what you are now doing?

--Positive (3)
--Negative (1)
--Not applicable (1)

Do you have any plans to change what you are now doing?

--Yes (2)
--No (2)

To what?

--Don't know (1)
--To another position in present employment (1)

12. Have you decided on a career?

--Yes (4)
--No (1)

Do you feel it matches your own personal interests and abilities?

--Yes (4)

Have you been able to get into (or train for) this line of work?

--Yes (3)
--Not applicable (housewife) (1)

13. What opportunities exist for advancement from your present position?

--Not applicable (3)
--Another job within present work (1)
--None (1)

14. What do you think are your chances of being able to advance from your present position? Are you satisfied with this?

--Not applicable (4)
--Good (1)

GRADUATE FOLLOWUP QUESTIONNAIRE

Although you have left $(CE)_2$ for (we hope) bigger and better things, we have a continuing interest in your plans, activities and career progress. We hope you will take a few minutes to complete and return this survey of what and how you are doing since leaving. Our purpose is to take advantage of your experiences both while in $(CE)_2$ and since to help us make this program a better one. What you say will never be identified as coming from you. All information received will be treated confidentially at all times. Thank you for your cooperation.

NAME_____ DATE_____

PERMANENT ADDRESS _____
(street)

_____
(city) (state) (zipcode)

PRESENT (TEMPORARY) ADDRESS _____
(street)

_____
(city) (state) (zipcode)

---

1. What have you been doing since you left $(CE)_2$? More education? Work? Whatever? In the space below, and continuing on page two, are items for you to check as they describe your activities.

A. Education — Semesters

[6] Community or Junior College	[2] 1 sem	[4] 2 sem	☐ more than 2 sem
☐ Four year college or university	☐ 1 sem	☐ 2 sem	☐ more than 2 sem
☐ Vocational or technical school	☐ 1 sem	☐ 2 sem	☐ more than 2 sem

Field of study, major or type of special training

--Home Economics
--Communications
--General Education
--Gymnastics
--Broadcasting
--Forestry Technology

[2] Other (describe)

--Electronics School in USAF
--Got Married

B. Employment — Amount

[5] Full-time work — [ ] 1-4 weeks — [2] 1-4 mos — [3] more than 4 mos
--Head Cook --Switchboard Opr; Teletype --General Help-Auto Dealer
--Air Force --Secretary/Receptionist

[5] Part-time work — [2] 1-4 weeks — [3] 1-4 mos — [ ] more than 4 mos
--PCC/Student Help --Cleaners
--Babysitting & Material Shop --Inventory/Maintenance
--Musician
[ ] No paid work

2. To what extent are you now providing your own financial support?

[4] Completely [2] Partially [1] Not any

3. To what extent are you providing financial support to someone else?

[ ] Completely [1] Partially [6] Not any

4. Have you done any volunteer work for your community or for a social or political organization since leaving $(CE)_2$?

[5] No [2] Yes

If yes, describe:
--Geneology work/Cleaning Parks & Recreation Areas/Caroling
--Church work/Neighbors

5. The statements below name phases of career development. Please circle the appropriate number to show how satisfied you are with your present progress in each phase.

	Phase	Very Dissatisfied				Very Satisfied
a)	Knowing what jobs you are good at and what you like to do	1 (-)	2 (-)	3 (1)	4 (3)	5 (3)
b)	Knowing where job opportunities may be found during the next ten years	1 (1)	2 (-)	3 (3)	4 (2)	5 (1)
c)	Knowing how to locate and apply for a job	1 (1)	2 (-)	3 (-)	4 (1)	5 (5)
d)	Making a choice of which specific career to prepare for	1 (-)	2 (1)	3 (3)	4 (2)	5 (1)
e)	Preparing for specific career	1 (1)	2 (-)	3 (3)	4 (1)	5 (2)
f)	Preparing for an alternative or second possible career if the first one doesn't work out, or you want to change later	1 (-)	2 (1)	3 (1)	4 (2)	5 (3)

6. Below are listed various areas of possible importance for young people to learn. Please rate each in terms of how important you feel it is to learn these things, and how well $(CE)_2$ helped you accomplish each.

Students learn to:	How Important Do You Feel This Learning Is? Not Important 1	2	3	4	Highly Important 5	How Effective Do You Feel the Project Has Been in Accomplishing This Learning? Not Effective 1	2	3	4	*Highly Effective 5
a. Perform specific occupational skills	-	-	1	2	4	-	1	2	2	2
b. Be punctual and organize their time	-	-	1	1	5	-	1	3	2	1
c. Assume responsibility for themselves	-	-	-	-	7	-	1	1	2	3**
d. Make decisions and follow through	-	-	1	1	4	-	2	-	4	1
e. Communicate with others in a mature way	-	-	-	1	6	-	1	1	1	4
f. Be aware of more career opportunities	-	-	1	3	3	1	-	-	2	4
g. Work with others	-	-	-	3	4	-	-	-	4	3
h. Evalute their own work	-	-	1	3	3	-	1	1	3	1
i. Perform basic academic skills	-	-	-	2	5	1	1	2	3	-
j. Think through and solve problems	-	-	-	-	6	1	-	-	5	1
k. Have a realistic attitude toward self	-	-	-	-	7	-	-	1	3	3
l. Have a positive attitude toward work	-	-	1	-	6	-	2	2	2	1
m. Have a positive attitude toward learning	-	-	-	3	4	1	-	-	6	-
n. Prepare for further education	-	-	1	1	5	1	2	-	3	1
o. Improve interpersonal and social skills	-	-	1	2	4	1	-	2	2	2
p. Other (please specify)_____ --Choose and participate in recreational extracurricular activities --Being able to be open toward others --Counseling										

*I believe "Highly Effective" is related to how much the individual student is ready, willing to contribute to his life--This is not the fault of the program.

**Very good

7. The statements below are descriptive of various ways in which $(CE)_2$ may or may not have assisted you. Please circle the appropriate number to show how much effect it had on you.

	Strongly Agree	Agree	Disagree	Strongly Disagree
$(CE)_2$ helps prepare students for work	1	5	1	--
$(CE)_2$ helps prepare students for college	1	3	2	1
$(CE)_2$ helps prepare students to understand themselves better	4	3	--	--
$(CE)_2$ helped me decide what I wanted to do after high school	2	2	2	1
$(CE)_2$ helped me to deal more effectively with others	3	4	--	--
$(CE)_2$ helped me to decide what I wanted to do to make a living	1	4	1	1

Appendix K

TABULATION OF

STUDENT END OF YEAR QUESTIONNAIRE*

This brief questionnaire repeats some of the items that you were asked in September and adds some new ones that cover your career plans, personal experiences and knowledge about the world of work. If you have any questions while you are completing the survey just ask for assistance.

	$(CE)_2$	THS	OSC	CWE
1. What do you expect to be doing one year after completing high school?				
1. ☐ Working full-time	46	17	19	47
2. ☐ Entering an apprenticeship or on-the-job training program	8	0	10	33
3. ☐ Going into regular military service or to a service academy	12	6	0	7
4. ☐ Attending a vocational, technical, trade or business school	8	6	13	0
5. ☐ Attending a junior or community college	31	28	45	33
6. ☐ Attending a four-year college or university	12	22	19	0
7. ☐ Working part-time	23	22	23	13
8. ☐ Other (travel, take a break)	35	17	0	27
9. ☐ I have no idea what I'll be doing	12	11	3	7
2. How far do you plan to pursue your formal education?				
1. ☐ Don't plan to finish high school	0	0	0	0
2. ☐ High school graduate	38	11	6	27
3. ☐ High school plus one or two years of college, community college or special training	27	39	45	53
4. ☐ High school plus three or more years of college, community college or special training	19	17	16	20
5. ☐ Four year college graduate	8	22	23	0
6. ☐ Graduate or professional training beyond college	8	11	10	0

*This questionnaire was administered in May 1974 to 26 students in $(CE)_2$, 18 students from the Tigard High School random sample (THS), 31 students from the Occupational Skills Center (OSC) and 16 students in the Diversified Occupational Cluster of the Cooperative Work Experience (CWE) Program at Tigard High School. All figures shown are percentages within each group.

	$(CE)_2$	THS	OSC	CWE
3. Do you enjoy reading?				
1. ☐ No	12	0	3	20
2. ☐ Yes, sometimes	54	28	55	53
3. ☐ Yes, I usually enjoy reading	35	67	42	27
4. This year, approximately how many pamphlets, brochures, manuals or magazine articles did you read?				
1. ☐ None	0	0	0	0
2. ☐ 1 to 5	4	11	10	20
3. ☐ 6 to 10	19	6	10	7
4. ☐ 11 to 20	19	17	29	40
5. ☐ 21 to 30	15	11	10	7
6. ☐ More than 30	42	50	42	27
5. This year, approximately how many books (not counting textbooks) did you read?				
1. ☐ None	4	0	3	7
2. ☐ 1 or 2	31	11	3	7
3. ☐ 3 to 5	31	11	32	33
4. ☐ Between 6 and 10	19	33	35	27
5. ☐ Between 11 and 20	4	22	23	13
6. ☐ More than 20	8	17	3	13
6. Do you read the newspaper?				
1. ☐ No, or almost never	27	0	3	7
2. ☐ Yes, at least once or twice a week	38	44	39	53
3. ☐ Yes, most every day	35	50	58	40

	(CE)$_2$	THS	OSC	CWE

7. If you read the newspaper at least once a week, what sections do you usually read? (Check one or more)

1. ☐ Sports	31	44	68	33
2. ☐ Fashions	12	22	3	33
3. ☐ Front page news	81	89	90	73
4. ☐ Comics	85	83	68	80
5. ☐ Editorial	23	22	35	13
6. ☐ News columnists, such as Art Buchwald	4	17	13	20
7. ☐ Other, please list	35	11	19	47

8. Please list two jobs that you feel you might like to hold after completing your education. Be as specific as possible. For example, say " a draftsman" rather than "working at Tektronix."

1. _____ 2. _____

9. Have you given much thought as to why your first two job choices are right for you?

1. ☐ A little	12	6	6	7
2. ☐ Some	27	11	35	27
3. ☐ A lot	50	78	55	67

10. How sure are you of steps to prepare for and enter each of the two jobs?

1. ☐ Do not know where to begin	0	6	0	0
2. ☐ Have some idea	23	44	23	47
3. ☐ Steps pretty clear	50	39	48	20
4. ☐ Steps quite clear	23	11	26	33

	$(CE)_2$	THS	OSC	CWE

11. Do you feel you will be able to complete the necessary steps for at least one of the jobs?

1. ☐ Yes	96	94	90	87
2. ☐ Not sure	0	6	6	13
3. ☐ No Response	4	0	4	0

12. Which one of the following is the best way to begin career planning?

1. ☐ Look at what is available on the job market	15	11	3	27
2. ☐ Take tests to find out what you should do	0	0	10	0
3. ☐ Consider what it is you want out of a job	65	78	74	73
4. ☐ Read as many job descriptions as you can find	8	0	10	0

13. What will the labor force probably be like 10 years from now?

1. ☐ Most jobs will require 4 or more years of college	27	28	23	27
2. ☐ There will be fewer jobs for unskilled workers	62	39	52	47
3. ☐ There will be more jobs for high school dropouts than there are now	0	11	13	13
4. ☐ There will be fewer jobs for technical workers	0	22	3	7

Listed below are nine statements about career planning. For each statement check either the Agree or Disagree column.

					Agree	Disagree
14. Most persons remain in the same job throughout their adult lives.	35	56	52	60 disagree	☐	☐
	65	44	48	40 agree		
15. Few women work outside of the home after marriage.	69	89	94	80 disagree	☐	☐
	31	11	6	20 agree		
16. Less than one-third of all job openings require a college degree.	38	67	29	20 disagree	☐	☐
	62	33	71	80 agree		
17. Most people have the ability to do well in any job if they set their minds to it.	12	50	16	13 disagree	☐	☐
	88	50	84	87 agree		
18. There is only one "right job" for a person in terms of his abilities.	92	83	90	80 disagree	☐	☐
	8	17	10	20 agree		
19. The unemployment rate of 20-year-olds in the labor market is usually less than the rate for other adults.	77	44	68	67 disagree	☐	☐
	23	56	32	33 agree		

	$(CE)_2$	THS	OSC	CWE	
20.	The State Employment Service Office provides free information about job openings and job training programs.				
	19	11	0	0	disagree
	81	89	100	100	agree
21.	Apprentices are paid while they learn.				
	23	28	19	13	disagree
	77	72	81	87	agree
22.	The English and math skills of freshmen are about the same from one college to another.				
	65	78	77	67	disagree
	35	22	23	33	agree

Based upon your school/$(CE)_2$ experiences this school year, please indicate your opinion regarding the following questions. CIRCLE ONE NUMBER FOR EACH QUESTION.

23.	How helpful do you feel your school/$(CE)_2$ experiences this year have been in helping you to understand more about yourself?				
	4	6	0	13	1=of little or no help
	8	22	16	7	2
	12	22	23	53	3
	31	39	32	20	4
	46	11	29	7	5=very helpful
24.	How helpful have your school/$(CE)_2$ experiences been in helping you to think about your future work plans?				
	4	11	0	7	1=of little or no help
	4	6	6	13	2
	8	44	16	40	3
	19	28	35	27	4
	65	11	42	13	5=very helpful
25.	How helpful have your school/$(CE)_2$ experiences been in helping you to prepare for future learning whether in school or on the job?				
	0	11	0	20	1=of little or no help
	4	17	10	0	2
	27	44	29	40	3
	27	22	29	33	4
	42	6	32	7	5=very helpful
26.	How much control do you feel you have had in planning and carrying out your school/$(CE)_2$ experiences this year?				
	0	0	6	7	1=little control
	15	44	10	13	2
	19	11	26	53	3
	42	22	42	20	4
	23	22	16	7	5=much control
27.	How much thinking have you done about the school/$(CE)_2$ experiences you have had this year?				
	0	11	6	7	1=very little thinking
	0	11	13	33	2
	23	11	35	47	3
	54	39	19	7	4
	23	28	26	7	5=much thinking
28.	How relevant do you feel your school/$(CE)_2$ experiences have been in terms of your personal interests and skills?				
	0	6	0	20	1=little or no relevance
	12	33	6	27	2
	19	28	23	27	3
	31	28	39	20	4
	38	6	32	7	5=highly relevant

	$(CE)_2$	THS	OSC	CWE	
29.	If you could make one change in the school/$(CE)_2$ experiences you have had this year to make them more meaningful for you, what change would you suggest?				
	31	11	23	27	1=see below
	8	11	26	7	2=see below
	4	39	13	27	3=see below
	4	17	6	0	4=see below
	0	6	6	13	5=see below
	27	6	3	0	6=see below
	8	0	6	7	7=see below
	19	11	16	20	8=see below

1=no response/don't know
2=no change
3=less requirements/more choice
4=more practical classes/more job information
5=change in curriculum content
6=change in instructional strategy
7=change in personnel
8=other

Appendix L

TABULATION OF NONVOLUNTEER STUDENT QUESTIONNAIRE

(May 1974)

Last month you were given information about the Career Education Project called $(CE)_2$. Our records indicate that you were not one of the students to apply for the project. Because $(CE)_2$ is a new type of program, little is known about why students apply or do not apply for such programs. We hope, therefore, that you will take a minute or two to let us know your reasons for deciding not to join $(CE)_2$ for next year. Your answers will help us to gain a better understanding of how $(CE)_2$ is viewed by students at THS. Please complete this questionnaire and return it to your teacher.

(N=97)

1. Why did you decide <u>not</u> to participate in $(CE)_2$ next year? Check as many reasons as apply.

   1. [39] I did not want to leave my friends at Tigard High.
   2. [14] I was afraid I would be less able to participate in extracurricular activities at the high school if I joined $(CE)_2$.
   3. [32] I was not really sure what I would be required to do in the $(CE)_2$ program.
   4. [12] It looked like $(CE)_2$ might require a lot more work than high school.
   5. [39] I am concerned that $(CE)_2$ might not properly prepare me for college.
   6. [13] I am not interested in learning more about careers.
   7. [44] I prefer the type of education given at THS.
   8. [50] Other reason (please write in why) (SEE ATTACHED)

2. What were your parents' reactions to your joining $(CE)_2$?

   1. [8] They encouraged me to join.
   2. [15] They were against my joining $(CE)_2$.
   3. [46] They neither encouraged nor discouraged me from joining $(CE)_2$.
   4. [12] Other: (SEE ATTACHED)

3. How would a career education program like $(CE)_2$ have to be changed to interest you in joining it?

(SEE ATTACHED)

4. Was the student recruitment information presented to you about $(CE)_2$ adequate to answer all your questions about the program?

1. [52] Yes 2. [24] No

If no, what other information would have been helpful?

(SEE ATTACHED)

5. What do you plan to be doing one year after high school?

1. [15] Working full-time
2. [4] Entering an apprenticeship or on-the-job training program
3. [5] Going into regular military service or to a service academy
4. [9] Attending a vocational, technical, trade or business school
5. [25] Attending a junior or community college
6. [32] Attending a four-year college or university
7. [25] Working part-time
8. [15] Other (travel, take a break)
9. [8] I have no idea what I'll be doing

6. Sex

1. [33] Male
2. [43] Female

7. Grade Level

1. [33] Sophomore
2. [45] Junior

THANK YOU

1. Why did you decide <u>not</u> to participate in $(CE)_2$ next year?
   --likes traditional education better/$(CE)_2$ does not appeal (20)*
   --program requirements not congruent with student's learning style and abilities (7)
   --schedule conflicts (e.g., job) (5)
   --parents objected (3)
   --lack of information (3)
   --other (8)

2. What were your parents' reactions to your joining $(CE)_2$?
   --parents did not know about it (11)
   --parents thought it would be good in senior year (2)
   --parents didn't care (2)
   --other (4)

3. How would a career education program like $(CE)_2$ have to be changed to interest you in joining it?
   --it would never interest the student (17)
   --make it more traditional/structure (8)
   --better presentation/more information (7)
   --concerned about college preparation/admission (5)
   --less separation from high school (2)
   --other (13)

4. Was the student recruitment information presented to you about $(CE)_2$ adequate to answer all your questions about the program? What other information would have been helpful?
   --more information on what is required of students (5)
   --still don't understand the program (3)
   --what careers are offered (2)
   --more contact with $(CE)_2$ participants
   --other (5)

*Number in parentheses indicates number of students giving that response.

Appendix M

LIST OF SKILLS AND EXPERIENCES GAINED BY $(CE)_2$ STUDENTS ON LEARNING LEVEL SITES CLASSIFIED BY OOH CLASSIFICATION*

Industrial Production and Related Occupations

Use power saws and glass cutter
Learn soldering technique
Learn to manipulate a color-coded wire system diagram
Become familiar with production quota
Assemble boat trailer
Prepare boats for delivery
Operate metal working materials

Office Occupations

File and sort office materials
Write purchase orders and requisitions
Receive shipments
File
Type
Take shorthand
Telephone skills
Operate a centrex system
Develop techniques for taking messages
Read and write work orders
Key punch operator
Office machines
Switchboard operation
Handle customer accounts
File and alphabetize
Maintain telephone reminder system
Complete vehicle mileage forms
Receptionist skills
Become familiar with billing procedure
Use adding machine
Compute cost of using xerox machine
Rolodex filing
Compute employee withholding for payroll
Warehouse supply techniques
Order and price parts
Compute operation skills
Learn IBM symbols and neumonics
Prepare JCL stream

* Occupational Outlook Handbook, 1974-75 Edition, US Department of Labor.

Office Occupations (continued)

Assist in job breakdown
Extract and distribute billing information
Increase typing speed

Service Occupations

Toll and information operator
City maintenance
PBX operator
Record formulas used in hair conditioning
Cut, set, wave, color and style hair
Manicure nails
Public speaking for police department
Research, interpret and write police summaries
Fire fighting techniques
Write accident and crime report
Operate police car lighting and radio system
Public speaking to citizens' groups
Bicycle safety inspection
Write traffic citations

Education and Related Occupations

Teach physical awareness and socialization skills to trainable mentally retarded adults
Work with preschool children
Write up case study
Teach basic prereading skills
Teaching assistant
Observe student behavior
Monitor behavior of preschool children
Assist librarian
Review books and establish grade placement
Use Dewey decimal system
Check out books
Teach mentally retarded
Child supervision
Develop math curriculum
Develop lesson plans
Take roll and tabulate lunch count
Shelve books
Maintain book fine and renewals

Sales Occupations

Stock bolts of materials
File and retrieve patterns
Assist customers
Work cash register
Identify and price synthetic material
Understand operation of retail store
Weigh and calculate prices for bulk food items
Complete modeling course
Set-up boat displays
Public relations work
Demonstrate sales techniques

Construction Occupations

Observe and participate in construction of a single unit dwelling
Use blueprints
Use power tools
Stain and paint plywood cabinets
Observe quality control procedures
Begin understanding Oregon's electrical codes
Participate in commercial wiring
Become familiar with tools of commercial electrician
Gain awareness of power source and power system
Use hand tools
Sanding

Occupations in Transportation Activities

(None)

Scientific and Technical Occupations

Reading and interpreting chemical formulas
Gathering, sorting and distributing statistical data
Performing lab tests
Drafting

Mechanics and Repairmen

Observe and participate in maintenance of prop aircraft
Electronic testing of equipment
Become familiar with hand tools for aircraft servicing

Mechanics and Repairmen

Become familiar with requirements for hourly check procedures
Read work orders
Install telephone equipment
Order equipment
Participate and observe diesel mechanics
Take compression readings
Repair injector system in diesels
Repair brake system in trucks
Become familiar with hand tools
Become familiar with technical vocabulary used in diesel mechanics
Learn how to procure parts necessary to repair diesels
Routine maintenance of city vehicles
Replace brake systems
Cycle assembly
Rebuild cycles
Detail cycles
Cycle mechanics
Car sanding
Masking preparation
Repairing dents
Priming automobiles
Painting automobiles
Welding
Boat maintenance
General engine maintenance
Internal combustion mechanics
Entry level skills in repairing media equipment

Health Occupations

Dental terminology
Assist in oral surgery
Learn about tools used in dental restoration
Observe x-ray procedures and process film
Determine dental replacement costs
Operate blood pressure and other emergency medical equipment
Operate ambulance equipment
Use oxygen equipment and other emergency aid equipment

Social Scientists

Case study writing
Interviewing techniques
Survey audience

Social Service Occupations

Counseling for outdoor school
Write up case study
Monitor counseling groups
Schedule volunteers
Investigate and use counseling game
Interview techniques
Write reports for court

Art, Design and Communications-Related Occupations

Frame and mat pictures
Conduct radio survey and analyze statistical information
Write public service announcements
Operate console and recording equipment
Develop dark room techniques
Participate in portrait retouching
Use lights for photography
Handle radio communications
Operate radio station console equipment

Other

Become aware of community resources
Experience court litigation involving liability suit
Read and interpret street map

Appendix N

COMPLETE CASE STUDY REPORT

Mike--A Case Study

Background. Sitting in a classroom at Tigard High School (THS) was difficult for Mike. In some classes he was way behind. In math he was always the first to finish a test. "I loved math and could always finish a test in about ten minutes, but I wasn't doing well in my other classes," Mike explained.

A 17-year old junior, Mike has finished a year at $(CE)_2$ and is looking forward to completing high school there. He first heard about $(CE)_2$ at THS when he was a sophomore. "I really only went to the assembly to get out of one of the classes I didn't like," Mike confessed.

But after listening to the $(CE)_2$ explanation, Mike was quickly sold on the idea. He not only liked the notion of learning on the job, but also thought the program might allow him to work at his own speed.

Mike took some descriptive materials home to his parents and they joined him in an evening session at the $(CE)_2$ learning center to find out more about the program. Mike then filled out an application form and was accepted into the program for his junior year.

Early testing sessions verified the inconsistency of Mike's experiences in school. While his reading and language scores were well below the average scored by a randomly selected group of juniors at Tigard High, he showed above average abilities in study skills and demonstrated superior ability in math.

On a less tangible level, $(CE)_2$ staffers early in the school year described Mike as being hyperactive, submissive, lacking in self-confidence, and unconcerned about his health and physical appearance when he started the $(CE)_2$ program. He was also judged to have severe writing deficiencies. Consequently, Mike's $(CE)_2$ learning manager devised a learning plan that would build his communications skills (in both writing and interpersonal relations) while encouraging him to explore several career possibilities. Mike's job experiences and projects were designed to capitalize on his existing interests and to broaden them.

$(CE)_2$ Experiences. A typical day for Mike started at 8:00 a.m., just as in any other high school, but the hours in between varied a lot. When he first arrived at the $(CE)_2$ learning center, Mike said he usually spent some time "fooling around" with the computer before he worked on projects underway at the center.

On his original application Mike indicated his career preference would be a computer operator. This led to an opportunity in $(CE)_2$ to further explore that area and to learn more about the job. During April and May, Mike's second learning level experience took place in the computer department of Firstbank Services. He broke up his time there each day into morning and afternoon blocks, often arriving before his employer instructor did for the morning period. Mike usually spent that time going through computer workbooks. When his employer instructor arrived they went over flow charts together and worked on computer language.

Mike returned to Tigard High School for lunch and a German class he selected as a project. $(CE)_2$ students seldom take classes at THS but Mike had a special interest in German since his grandparents speak the language.

Following German class Mike returned to the learning center for an hour of work on other learning activities and then went back to Firstbank. "I often stayed there until 5:00 p.m.," Mike said.

Mike's activities and interests widened after that first year in $(CE)_2$ but his goal of becoming a computer programmer was reinforced by the learning level experience at Firstbank.

The start of a new hobby--collection of computer materials--also occurred during the time he spent at Firstbank. "My employer instructor gave me some books to read that actually started the collection," Mike said.

Mike's interest in animals also was enhanced by his $(CE)_2$ experience. Mike always liked animals and his family owned a horse since he was 12 years old. By picking blueberries Mike was able to save enough to buy his own colt two years ago.

One of Mike's favorite projects during the year related to his horse. The project was designed to help Mike with Basic Skills and to improve his critical thinking skills. Mike read about breeds of horses and how to train them. Now he has joined a 4-H group with hopes of training his horse for show.

Several months later, Mike again focused on animals for a $(CE)_2$ project. This time he used the local zoo as a resource, interviewing the zoo manager and doing a thorough study of the Alaskan Brown Bear. Mike also joined an Explorer Scouting Club of volunteers to help at the zoo on a regular basis.

"I really liked working with the bears," Mike reflected. "They were really playful. Did you know when they rub their hair against the bars it sounds like a violin?"

Evaluation of the zoo project, one of the last Mike completed during the year, showed much improvement. The learning manager commented to Mike, "You are getting your projects done faster, and I think you are taking more time than you did at first to do a better job."

Accomplishments. Mike got off to a slow start in the Life Skills area. Like some of his peers, he went through a period described by one of the learning managers as "freedom shock." When removed from the more rigid structure normally experienced in a typical school setting, Mike tended to avoid his responsibility to the more "academic" side of his learning program.

At first, Mike seldom followed up on commitments and often did not let the staff know what he was doing. By the end of the year, he had improved remarkably in both of these behavior areas.

Through the weekly writing required in maintaining his journal, Mike demonstrated a significant improvement in written communications both in terms of presenting ideas and feelings and in the mechanics of writing. Mike also noted an interesting change in his behavior. "I used to watch a lot of TV and never did any reading," Mike said at the beginning of the following school year. "I read two books last year and have completed eight more this summer. Now I go to the book instead of to the television," he added. Mike's favorite reading material is science fiction.

Mike also observed a difference in his attitude about homework. "After going to school for six hours I wouldn't sit down and do homework. But in $(CE)_2$ I wasn't sitting in a classroom, so I didn't mind going home with some more work on my journal or projects."

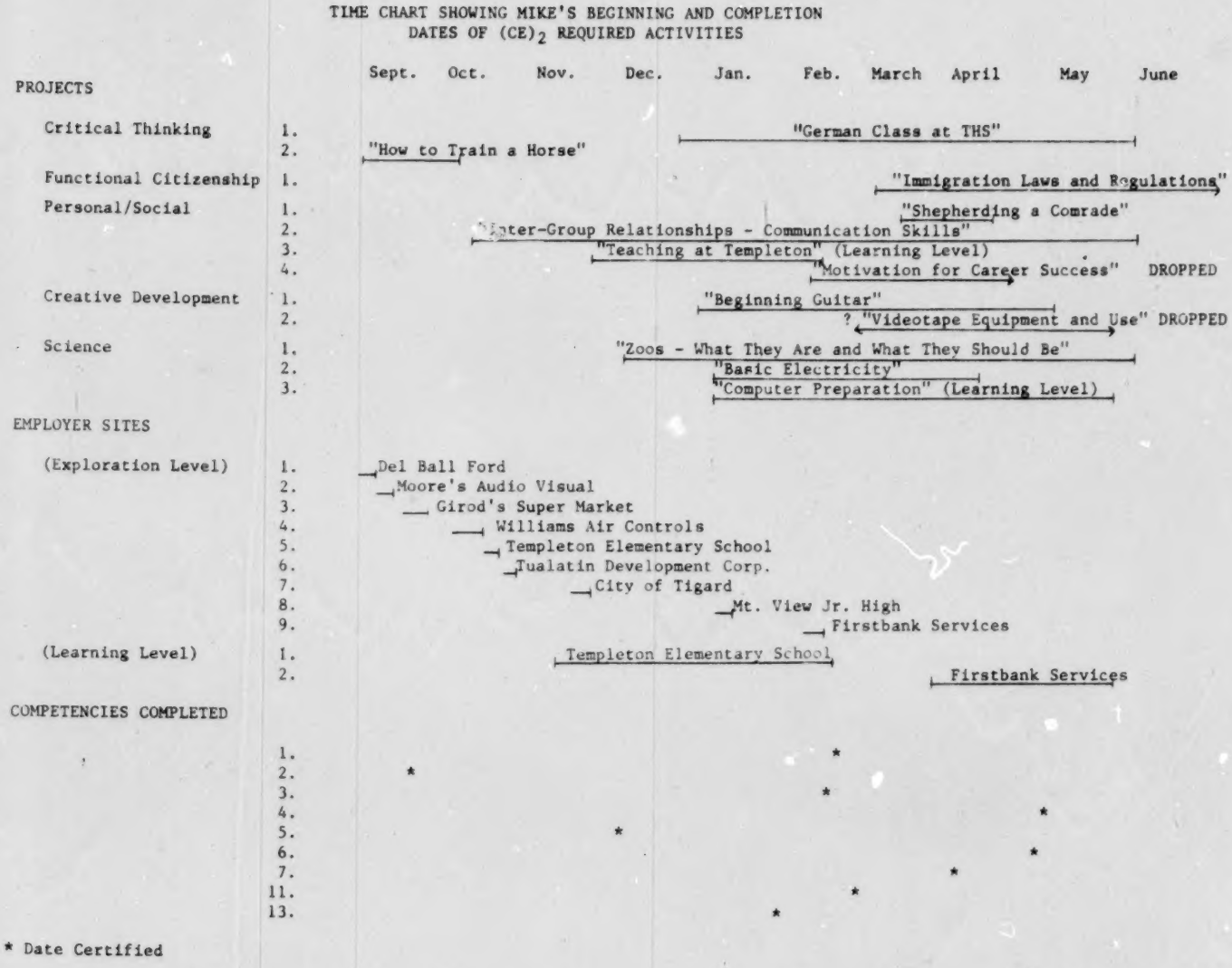
Mike's personal development was also undergoing change. Much of this change was attributed to his employer instructor, an elementary school teacher, who told him how important it is in the work world to wash and wear clean clothes. Both she and the project staff gave Mike much positive reinforcement when his dress improved. That same employer also told Mike that she was really interested in what he had to say and therefore wanted him to speak slower so he could be understood.

Mike's attendance improved at $(CE)_2$. During the year he missed only six days. This was better than the average absence for others in the program which was found to be 12.3 days missed during the year.

Like a number of other $(CE)_2$ students in his class, Mike went out on exploration level experiences but completed relatively few other program requirements during the first three months of the school year. By April, however, he was simultaneously working on eight different projects and pursuing a learning level experience at Firstbank. By the time Mike completed his junior year he had finished nine of the required thirteen competencies, explored nine business sites, completed two learning levels

and carried through on nine projects. Two were dropped during the year and one other is uncompleted but could be finished in the coming year. (See accompanying chart for an illustration of Mike's learning activities.)

TIME CHART SHOWING MIKE'S BEGINNING AND COMPLETION DATES OF $(CE)_2$ REQUIRED ACTIVITIES



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244

On a more specific level, Mike's competencies included transacting business on a credit basis, maintaining a checking account, designing a comprehensive insurance program, filing taxes, budgeting, developing physical fitness, learning to cope with emergency situations, studying public agencies and operating an automobile.

Mike did not achieve the same level of success on all of his job sites. However, his performance consistently improved throughout the year. Mike criticized the exploration packages when he started them in the first months of the program, and although he couldn't pinpoint how, said they could be better. His own reliance on the questions provided in the package was noted by the $(CE)_2$ staff with a comment that he rarely followed up on any cues provided by the person he interviewed. The packets reflected Mike's disinterest in the exploration portion of $(CE)_2$ work. They showed little effort and a certain sameness of remarks about his impressions at the various sites.

Mike explored career possibilities at Del Ball Ford, Moore's Audio Visual, Girod's Super Market, Williams Air Controls, Templeton Elementary School, Tualatin Development Corporation, City of Tigard, Mt. View Junior High School and Firstbank Services.

Mike's first learning level experience was at Templeton Elementary School. At the end of three and one-half months the two teachers serving as his employer instructors indicated concern about attendance, punctuality, initiative in learning and amount of supervision needed to see that Mike's time was used constructively. Mike did show significant improvement in appropriate dress, personal grooming and quality of work on assignments.

Reports from the second learning level experience--at the computer department at Firstbank Services--show a marked improvement. The employer instructor there rated Mike satisfactory in all aspects and by the time of the final evaluation gave excellent ratings in ten categories--attendance/punctuality, adhering to time schedules, understanding and accepting responsibility, observing employer rules, showing interest and enthusiasm, poise and self-confidence, using initiative in seeking opportunities to learn, using employer-site learning resources, beginning assigned tasks promptly and completing tasks assigned.

During the latter part of the school year, Mike worked on several projects at once. He worked on a project on basic electricity and took a course on "Beginning Guitar" for project credit.

To improve his communications skills, Mike also worked on an intergroup relations project. This project grew out of an awareness by the staff that Mike liked other students but seemed to lack social interaction with his peers and the staff. Reports at the beginning of the year indicated that he appeared dependent and submissive and was an immature conversationalist.

In response to these observations, Mike's learning manager negotiated project objectives and activities with him that would help improve his communications skills and help him solve some of his interpersonal problems. At the end of the year Mike noted a positive change related to his communications skills. "I can now speak up in groups," he said.

Mike's unfinished project related to his own experiences and interests. He moved to the Portland area from Canada ten years ago and frequently returns to see relatives. The project, on immigration laws and regulations, will increase Mike's knowledge in the functional citizenship area. At the same time, it will help Mike improve his grammar and spelling. Students have the option of completing a project started during their junior year when they are a senior; consequently, Mike may yet finish the project.

At the end of the year Mike said, "It turned out even better than I thought." Things he liked best about the new experience at $(CE)_2$ were working at his own speed, going to a job and having more freedom.

Comparisons. At the end of the year, Mike's tests showed significant increases in both reading and language skills. In the math and study skill areas only slight increases were indicated.

Tests on attitudes, given both at the beginning and the end of the year, indicated positive gains in self-reliance, understanding of roles in society, tolerance for people with differences in background and ideas than his, and openness to change.

Aspirations did not change for Mike. He still wants to go into computer programming after finishing college. "When I started the year I really didn't know too much about computers. I feel now that I know a lot and want even more to make it my career."

Kari--A Case Study

Background. According to Kari's Tigard High School counselor, she was "a personable and able student, never a trouble-maker." But although she was an above average student, Kari was bored with her high school classes.

Her disenchantment led her to apply at the end of her sophomore year to $(CE)_2$ as an alternative to her regular high school. "I really applied just to get out of Tigard High School," Kari confessed. "I was taking classes that didn't have anything to do with my life later. I didn't think I should have to go through all of that and be bored to death," she added.

Other reasons Kari cited as most important in applying to $(CE)_2$ included wanting more freedom and independence, having the opportunity to choose her own life style, and enjoying the intriguing idea of an experience-based career education program. Of lesser importance to Kari was actually learning about careers and job preparation.

At first Kari's parents were opposed to the $(CE)_2$ opportunity. Eventually they approved. Even when Kari's friends objected, however, she was determined to try the new alternative.

$(CE)_2$ Experiences--Junior Year. Kari was not selected to enter the program until the second semester of her junior year. Consequently, the number of projects and competencies required to be completed by her was adjusted to fit her reduced period of program participation. Based upon her high school counselor recommendations, previous educational experiences at Tigard High School, performance on the $(CE)_2$-administered Comprehensive Test of Basic Skills, and personal interviews with the $(CE)_2$ student coordinator and with the learning manager, an individualized learning plan was prepared. Kari's learning plan was designed to enable her to continue her academic progress while allowing her to work on projects related to her interests and to real-life situations.

During the last half of her junior year, then, Kari completed six projects in the Life Skills area, investigated five specific careers on the exploration level and fulfilled the learning level requirement.

For example, one of Kari's projects called "The Volunteer Way" investigated the ways volunteer organizations function, giving her an awareness of volunteer organizations available within the community. It satisfied the functional citizenship area.

Kari selected two group activities for her personal/social development projects. "Motivation for Career Success" required the completion of a goal so Kari could demonstrate self-direction and responsibility by making her own decisions and initiating action. Kari also decided to do a unit called "Up Against the Tube--A TV Unit" simply because people are influenced and educated by television. The project provided an opportunity to understand, analyze, criticize, evaluate and judge the experience she gained from watching television.

In addition, Kari completed five career explorations during this period. She explored Tigard US National Bank, Outside-In, Georgia Pacific, dentistry and Hotline Access. She was critical of the usual three days required to finish an exploration. "I could always tell the first day if it was a place I would like to work," she explained. In one case Kari even dropped an exploration before it was completed. "I went to a law

enforcement agency and the second day called back to the center for someone to come get me. It was obvious I was wasting my time," she said.

She was also critical of the exploration packet. These packets, filled out by students, describe the operations of the sites visited and give the students an opportunity to compare personal skills with job requirements. The packets are filed at the center to provide background for other students before they visit a new site. "I think the exploration packets aren't worth the effort," Kari said. "No one uses them and it takes a lot of time. If someone else got a negative impression and I read the packet, I might not go on an exploration when it could be a job I would really like," she added.

Kari's reaction to her indepth job experience (learning level) was much more positive though. From her explorations Kari selected Outside-In, a drug rehabilitative center, for this experience during her junior year. She worked with counseling, one of her selected career possibilities. Outside-In gave Kari extensive skills, varying from bookkeeping to interviewing techniques. She learned how to file, classify materials, write letters, balance daily and monthly financial reports and also applied communications skills when informing patients about services.

Kari completed four of the $(CE)_2$ program competencies during her first half year in the program. They consisted of the transaction of business on a credit basis, maintenance of a checking account in good order, design of a comprehensive insurance program and explanation of personal legal rights and responsibilities.

$(CE)_2$ Experience--Senior Year. After her junior year, Kari seriously considered returning to Tigard High School. She had worked during the summer at the $(CE)_2$ learning center and had developed some real conflicts with a particular staff member. This conflict and her mother's encouragement to return to the high school made the decision to stay difficult.

"It would have been less work (at Tigard High School)," Kari said. "I could have finished there each day by noon. But then I learned the fellow I wasn't getting along with would be leaving, so I decided to stay with $(CE)_2$."

During the first semester of her senior year, the learning manager described Kari as relaxed, eager to try new things and wanting to get deeply into the program as quickly as possible. She was described as demonstrating a high level of maturity and self-direction. Early assessment results placed Kari above average in reading, language and study skills and well above average in mathematics skills.

During fall semester Kari completed seven of the ten required Life Skills projects. Most of her program experiences were group activities or projects conducted with at least one other person. For example, she

participated in a group activity on "Juvenile Rights and the Law" designed to challenge her to read technical material.

The requirements in the personal/social area were met through "Motivation for Career Success" and "Public Speaking and the Organization of Programs." The first project was based on a minicourse package that asked Kari to develop a plan demonstrating self-direction. The public speaking activity helped her achieve self-confidence and improved her oral communications skills. She assisted in making presentations to those interested in the $(CE)_2$ program as a part of this project.

Candle making was a group project in creative development. Kari's other project was "Reading for the Pleasure of It," which had a positive effect on increasing her interest in reading. Kari's final student questionnaire indicated she had read more books than previously and also was more interested in reading other kinds of materials (newspapers, magazines).

An "Ad Biz Quiz" done with another student to meet critical thinking requirements involved critically reading and analyzing advertising. The two girls studied advertising techniques, visited an advertising agency and designed their own ad. Kari also completed a project on "The Future of Communications" at General Telephone while there on a learning level experience as an operator. A critical thinking skill highlighted in the project was learning how to logically follow through on instructions.

Science requirements were met in part through a group study of "Terrariums." Students learned the process of life cycles, located materials and built a terrarium.

These projects interested Kari but by midyear she was again in a slump. For a period staff members noted Kari's disinterest, concern with diet and home problems, need for encouragement, noncommittal attitude, lack of follow through on commitment to a definite employer site, and her unrealistic attitude toward jobs, skills or time schedules. "During those three months I really didn't care," Kari reported. A number of staff conferences were held with her during this period to help her decide what she wanted to do. Kari was encouraged by the $(CE)_2$ learning manager to explore office occupations. Georgia Pacific was suggested because it offered a broad variety of office tasks as well as an opportunity to explore laboratory work.

An exploration at Georgia Pacific in February, followed by a learning level experience in March, however, turned Kari's attitude around. Her enthusiasm sparked again and she finished the year on a positive note. During her learning level at Georgia Pacific Kari used the opportunity to relate the employer site to a particular Life Skills area, that of functional citizenship. She looked at legal and safety procedures and related their impact to Georgia Pacific's operation. She met another science requirement with an individual project in the company's Gypsum Division laboratory. The

project's twenty-one objectives helped Kari gain an understanding of the scientific method by testing gypsum. At the same time she acquired some saleable job skills by working closely with a division manager and his secretary. The division manager encouraged her to learn shorthand. Despite the fact that she had studied shorthand in high school and disliked it, she became aware that she could use some tapes at the learning center on her own and develop the skills of shorthand for her own improvement rather than to meet a course requirement. Kari practiced shorthand and was reinforced for this by the people at Georgia Pacific where she was given real life opportunities to take dictation from the division manager and type it into actual business letters.

Specific job-related skills Kari learned during the $(CE)_2$ experience her senior year were telephone skills, counseling knowledge, laboratory skills, filing, shorthand, typing and specific telephone operations.

She had explored careers at Tigard School of Beauty, Public Defenders, Tektronix, General Telephone, Allstate Insurance and Georgia Pacific. Kari pursued learning level experiences at both General Telephone and Georgia Pacific.

During her senior year Kari completed the rest of her competency requirements including filing state and federal income taxes, budgeting, responding to emergencies, participating in the electoral system, making use of public agencies, applying for employment and holding a job and operating and maintaining an automobile. Her projects were completed satisfactorily and on time. (See accompanying chart for an illustration of Kari's learning activities.)

Final staff comments indicated that watching Kari make the transition from teenager to adulthood was a rewarding experience. The learning manager said, "Kari is an attractive, polite, intelligent young lady who has learned how best to capitalize on her capabilities and assets."

One of Kari's employer instructors reported, "She does neat work. In the lab she is cautious and exact. She adapts to new situations and accepts instructions well. She retains and applies instructions with ease and displays an inquiring mind."

Staff members indicated that Kari exhibited the same traits in her work on projects at the learning center. They projected a promising future for the graduating senior.

Kari completed all of her $(CE)_2$ requirements by early May and was allowed to leave the program at that time although her formal high school graduation occurred the following month. After Kari graduated in June, she returned to one of her $(CE)_2$ learning sites--this time as an employee. She began work at General Telephone as a full-time operator.

TIME CHART SHOWING KARI'S BEGINNING AND COMPLETION DATES OF $(CE)_2$ REQUIRED ACTIVITIES

		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
PROJECTS											
Critical Thinking	1.	"Ad Biz Quiz"									
	2.	"Communications - Learning Level at General Telephone"									
Functional Citizenship	1.	"Juvenile Rights and the Law"									
	2.	Local Tax Structure →				DROPPED					
	3.								"Some Rules and Regulations of the Georgia Pacific Corp."		
Personal/Social	1.	Motivation for Career Success									
	2.	"Public Speaking and the Organization of Programs"									
Creative Development	1.			"Candle Making"							
	2.					"Reading for the Pleasure of it"					
Science	1.	"Terrariums" - (Done before school opened - 7/15/73 to 8/31/73)									
	2.							Secretary/Lab Technician - Learning Level at Georgia Pacific			
EMPLOYER SITES											
(Exploration Level)	1.	Tigard School of Beauty									
	2.	Public Defenders Office									
	3.	Tektronix									
	4.	General Telephone									
	5.				Allstate Insurance						
	6.						Georgia Pacific				
(Learning Level)	1.			General Telephone							
	2.						Georgia Pacific				
COMPETENCIES COMPLETED											
	1.	junior year									
	2.	junior year									
	3.	junior year									
	4.	*									
	5.	*									
	6.	Not Completed									
	7.		*								
	8.									*	
	9.	Not Completed									
	10.	junior year									
	11.	*									
	12.	*								*	
	13.										

* Date Certified

Appendix O

DESCRIPTIONS OF $(CE)_2$ AND COMPARISON GROUPS

Contained in this appendix are descriptions of $(CE)_2$, the Cooperative Work Experience Program (CWE) at Tigard High School, and the Occupational Skills Center (OSC). It is hoped that these descriptions will help the reader integrate and interpret the data contained in this report. To this end, the goals, curriculum, learning resources, nature of the student body and student evaluation procedures of the experimental and comparison groups are described. One comparison group, the Tigard High School random sample, is not described in this appendix because the individual students within the sample have experienced a heterogeneous set of courses and experiences, thus making a common description difficult. It should be noted, however, that the THS random sample of students was designed to exclude students in the Diversified Occupational Cluster of the Cooperative Work Experience Program and those in $(CE)_2$.

$(CE)_2$

Purpose

To provide an individualized, comprehensive experience-based educational program that will directly facilitate the transition of youth from secondary "schooling" to work and/or higher education. This is to be accomplished through more specific student objectives which include the following: that students will progress in the Basic Skills at a rate comparable to that of students enrolled in the regular high school; that the students will develop Life Skills (including critical thinking, citizenship, personal and social development, creative development, sciences and a series of "survival competencies"); and that students will develop career awareness (including increased knowledge of self, knowledge about the world of work, job skills and knowledge of the job market).

Curriculum

Content. Includes work in the Basic Skills, Life Skills and Career Development.

Learning Strategies. Student projects, which are individually planned and negotiated by a learning manager and the student, are the central learning activity of $(CE)_2$. Students also keep a daily journal describing their experiences and work on a series of "survival" competencies. Individual work with tutors is also available.

Environment. The learning environment is community based (i.e., outside the traditional high school). All learning activities take place at community or employer sites, or in a learning center on an individualized basis.

Learning Resources

Learning resources include employer and community instructors, all employers and public facilities in the community (library, city hall, banks, hospitals, etc.), $(CE)_2$ operations staff (operations director, two learning managers, two employer relations specialists, one counselor, one learning resource specialist), computer terminal and $(CE)_2$ library.

Student Size and Selection Procedure

There were approximately 50 students in $(CE)_2$ during the 1973-74 school year. Recruitment for the program was directed in the spring of 1973 at all current Tigard High School sophomores and juniors. Students applying for the program for the fall of 1973 who were not able to be accommodated because of the program limit of 50 students were given an opportunity to join the program later in the year as vacancies occurred in $(CE)_2$.

Evaluation of Student Progress

The progress of $(CE)_2$ students is evaluated by a variety of people. The employer instructors evaluate the students on their performance at employer sites, community resource people evaluate performance in special classes and projects and certify the successful completion of the competencies, the learning managers evaluate student performance on the ten prescribed Life Skills projects and the entire $(CE)_2$ staff evaluate the academic and nonacademic progress of the students in weekly student staffing* sessions. Evaluation reports to parents and to colleges, in the case of graduating seniors applying for admission, are largely descriptive in nature.

Occupational Skills Center

Purpose

The purpose and goal of the Skills Center is to provide students with the opportunity to develop specific skills which they may use to enhance their chances of success in further formal education, in immediate work or in various apprenticeship programs. This general goal is accompanied by specific career cluster goals which include vocational skills, career entry skills and personal development. Approximately 42 percent of the 1973

* See page 59 of this report for a more complete description of the student staffing process.

graduates continued their education beyond high school, 31 percent worked at a job related to their career cluster, 20 percent worked at a job not related to their career cluster and 7 percent were unemployed.

Curriculum

Content. The content of the curriculum at the Skills Center includes work in one or more of ten career clusters: agriculture, building construction, child services, marketing and distributive education, data processing, electricity and electronics, graphic reproduction, health occupation, industrial mechanics and metal working.

Learning Strategies and Environment. Students spend one half of the day in traditional high school classrooms at their home high school and the other half at the Skills Center where they attend cluster classes, seminars on job search techniques and resume writing, and receive job counseling. Some students (about 15 percent) opt for work study experiences outside the Skills Center, where they are required to work three hours daily, are paid and receive 1.5 units of credit. Still other students receive credit for outside work under the extended classroom program, where a student's outside job is approved as an accredited learning experience. Advanced training is offered in certain areas with outside institutions such as the General Motors Training Center and the Hyster Corporation Fork Lift Training Program.

Learning Resources

Learning resources include the well-equipped shops and classrooms at the Skills Center, instructors with career backgrounds in the area in which they teach, a counseling and placement office, the libraries and other learning resources of the home high schools, and the employer sites for those students participating in the work experience programs and other outside training programs.

Student Size and Selection Procedures

There are approximately 800 students in the Skills Center program. The program is open to juniors and seniors primarily from Clackamas, Milwaukie and Rex Putnam High Schools. Students from other high schools may also attend, at no additional cost, provided they reside within the North Clackamas School District.

Evaluation of Student Progress

Students are evaluated by the cluster instructors on the work they perform. Students in the work experience program are also evaluated by the work supervisors.

The Cooperative Work Experience Program at Tigard Senior High School

A brochure describing the Cooperative Work Experience (CWE) program describes it as "a partnership of the business community and students at Tigard High." It is essentially a work-release program--that is, students work for an employer part-time while still attending school for part of the day. The employment of students is specifically within the occupations for which the courses in school are preparing them, and the employment serves the function of a practical laboratory for reinforcing the in-school occupational education. Students receive both pay and school credit for their work.

Student Selection

A student may enter the CWE program through four general interest areas: marketing, steno-secretarial, accounting, or diversified occupations. About one-half of the students are enrolled in the diversified occupations class. Students are chosen on the basis of their needs, aptitudes and interest in an occupational area that is currently available in the community. A total of about 27 students from Tigard High School's Marketing, Steno-Secretarial and Accounting programs elect this option. All of those students enrolled in the diversified occupations class (about 23 to 25 students) are placed in occupational areas ranging from industrial mechanics and service station work to food service and health occupations. There are thus about 50 students enrolled in the program at any given point in the school year. The diversified occupation's class is composed of students who are less academically motivated than those in the other three cluster programs.

Structure of the Program

CWE is designed as a vocational education program, eligible for federal vocational funds. (One-half of the coordinators' salary and the cost of some reference materials are reimbursed through the state department of education.) It is expected that students in the program work an average of 15 hours per week in afternoons, evenings, Saturdays or Sundays. Minimum wage and hour requirements must be met. The students receive on-the-job instruction by their employers and related classroom instruction by the program coordinator, and are expected to assume the responsibilities of a full-time employee.

The employer who accepts a work experience student assumes a definite responsibility toward the student and toward the CWE program. These responsibilities, set forth in a training agreement with the employer, include:

1. Supervising the students work on the job. This supervision may be assigned to an employee who will serve to oversee the student's work.

2. Providing necessary training on the job.

3. Providing the student with opportunities to learn a variety of tasks related to his primary employment.

4. Evaluating the student's work. This evaluation is made on a systematic basis with a rating sheet. It is intended that students' weak points will be strengthened and his successes reinforced by discussion on the job as well as at school.

The school assumes the major responsibility for coordinating the activities of the program. A designated school coordinator is responsible for finding and/or approving work stations, drawing up the training agreement, selecting students, working with the student and his employer, supervision of students' in-school academic studies and preparation for job training, and evaluation of student performance both on the job and at school. The coordinator is also responsible for maintaining proper records for local, state and federal requirements and for implementing the recommendations of advisory committees.

The community shares in the educational activity of CWE through an active steering committee which advises the school as to community needs, publicity, curriculum, work stations and other instructional needs. Future plans call for forming a separate steering committee for each separate career cluster involved in the CWE program.

Appendix P

INTERPRETATION OF EVALUATION FINDINGS BY $(CE)_2$ STAFF

Introduction

Because the $(CE)_2$ operations staff has had direct experience in working with the students and have a different perspective on the program than the NWREL evaluation team, the operations staff was invited to read the evaluation findings and to write up an independent interpretation of the findings. The remainder of this appendix, then, is the interpretation by the $(CE)_2$ operations staff.

Interpretation of Findings by $(CE)_2$ Staff

The $(CE)_2$ staff have reviewed the EBCE FY 74 Final Evaluation Report. We find the report meaningful because of the wide range of data collected. In many cases evaluation results have alerted the staff to areas needing attention from either a design or operational standpoint. In most cases the data have substantiated the $(CE)_2$ staff's perception of the program. It is comforting to the $(CE)_2$ staff to have this amount of information available and to have it presented with such competence and clarity.

Given the above reactions to the report, the staff are still concerned and frustrated by the need to gather and display data on an individual basis. While much of the data gathered on a group basis is encouraging and indicates the positive effect of the $(CE)_2$ program on the entire group of students, the $(CE)_2$ staff tend to find the growth or lack of growth demonstrated by each individual student as the area of their greatest concern. While there is always a need to display information on a group basis, the true essence of the program can best be observed when the significant growth of the individual is reviewed. It is important to know the amount of growth in the Basic Skills each student has made, the way in which each individual student is using his/her time, the reactions that students as individuals have to program procedures such as accountability, and significant changes that have taken place not only in students' competence but in their value systems as well. We challenge the readers of this report to look deeply into the data presented and to analyze individual responses from students, employers, parents and staff. The impact of an individualized program such as this can best be discerned by a careful perusal of individual student responses and outcomes.

1. We are gratified that $(CE)_2$ students have shown significant growth in the Basic Skills area, since the Basic Skills component of the curriculum is of high importance to employers, parents and staff, as well as to students. However, we have not been satisfied that the Basic Skills delivery system has operated as effectively as it might, and therefore

intense and significant design changes have occurred since the writing of this report. Comparison of the $(CE)_2$ growth with a random sample of students at Tigard High School is not entirely accurate since the two groups are not comparable in skill, interests, or in the experiences which they have had in common this past year.

2. Changes in attitude as indicated on the Semantic Differential are extremely significant. It is the feeling of the staff that the reader should balance the fact that students made no growth during the second half of the year with the fact that significant growth was shown for the first half of the year. This higher plateau of growth was maintained in most cases, resulting in a sizable net gain over the year for all $(CE)_2$ students.

3. The staff continues to be intensely interested in the students' reaction to the issue of "work." We have tried to create in $(CE)_2$ a transitional experience for students between the role of learner and the role of earner. As a result, we do not believe that students are having a final and conclusive experience with work as a condition. They will only do that when they finally become employed for an established salary on a regular basis. We are, however, attempting to expose them to and have them experience a variety of work environments with all of their inherent positive and negative experiences so that students will have more adequate data with which to make long-term decisions.

4. Experience with other alternative individualized programs leads the staff to expect that students, coming from a more tightly structured school environment to one offering more and different alternative choices, would go through a period of self-indulgence. This is especially true in the area of attendance where students are asked basically to account for their own time and establish their own schedules without an adult supervising their location most of the program day. The fact that the students' attendance at $(CE)_2$ was slightly improved over their previous year at Tigard High School was a pleasant surprise.

5. We feel intense frustration that student performance in the Life Skills areas is reported through the number of projects completed. While volume of work as it relates to the expectation of students individually is important and is monitored constantly, the quality of the work within the learning projects has to be the only significant measure of student growth in this area. While the percentage estimates of learning manager evaluations alleviate this problem somewhat, the interested reader is encouraged to look deeply within students' projects for an assessment of the individual's performance.

6. The staff feel that the information regarding the competencies is misleading, since students coming into the program for one year only were required to complete only seven of the thirteen competencies. The

data as presented do not give a picture of the student's willingness to complete the competencies; they only suggest that when given a choice the student finds some competencies more popular than others. The average number of competencies completed is a gross measure and does not give the reader a definitive view of student performance in this area.

7. It is interesting to note that while student, staff, parent and employer reactions to the effectiveness of the program in accomplishing fifteen student learning outcomes were all positive as reported in the summary, groups who were most positive were the students and parents. All of the parties sampled are important, but the staff consider the students and parents as the target groups.

8. We do concur with the results that many students fell behind in the amount of work they were willing to complete as compared to the staff's expectations of them. However, if an adequate profile could be drawn for each student previous to his/her entry into $(CE)_2$, we believe we would find that many students who fell behind in the amount of work completed at $(CE)_2$ were also behind in the regular high school program, and in fact were hardly doing any work at all. If this proves to be so, it suggests the feasibility of inviting students into the program at an earlier age and having them in the program for a longer period of time to allow the program to influence more profoundly students' organizational and work skills and motivation. While changes in design will no doubt have a significant effect on this problem, the question has to be asked about the appropriate level of responsibility the program should assume for each individual student's performance. The ideal meeting between the student's need to develop independence and self-direction and the program's willingness to assume responsibility for the student's behavior must be found. A program attempting to encourage self-direction and independence cannot become so structured that it fosters dependence.

9. The summary statement regarding the need for a better structure or organization seems to be misleading. At one point a number of employers have said that $(CE)_2$'s greatest strength is its personnel and organization. On the same instrument some also said that one of the greatest weaknesses was problems in organization. Yet in twenty-five families surveyed, only three parents suggested organizational matters as a problem. Even in the area of discipline, where it is traditional for parents to disagree with staff and students, only five parent respondents expressed concern.

In general we feel the evaluation team has done a fair and careful study of the program. They have, in several instances, made an effort to transcend the limitations of test instruments and statistical reporting to deal adequately with such a program as $(CE)_2$.

Last year was good, but wait till you see this year, Baby.

Appendix Q

$(CE)_2$ HANDBOOK DESCRIPTIONS

Each handbook listed below will be user-oriented, specifying steps for planning, implementing and operating particular aspects of an EBCE program. The materials will be supplemented with background information, examples of (CE)2 experiences and descriptions of alternative methods, when available.

1. PROGRAM OVERVIEW	presents an overall picture of EBCE and of (CE)2
2. MANAGEMENT AND ORGANIZATION	
Policymaking	covers overall program planning and the decision making aspects of planning, implementing and operating an EBCE program
Personnel	delineates staff and staff roles necessary for planning, implementing and operating an EBCE program
Community Relations	concerns internal and external relations among staff, board, students, parents, employers and employees, the educational community and the community-at-large
Business Management	covers such operational considerations as budgets, financial reports, office routines, insurance, health and safety provisions, facilities and transportation
3. CURRICULUM AND INSTRUCTION	
Curriculum Components	describes curriculum content areas
Learning Strategies	concerns the strategies and planning and monitoring activities necessary to deliver student learning
Learning Resources	deals with individuals, sites, materials and equipment supportive of student learning
4. EMPLOYER/COMMUNITY RESOURCES	
Employer Recruitment and Selection	describes procedures for involving employers in the EBCE program
Employer Orientation and Development	describes gatherings for orienting and "training" employers
Employer/Community Utilization and Maintenance	concerns the use of employer and community sites, personnel and resources to deliver student learning

5. STUDENT SERVICES

Recruitment, Selection and Orientation	details the process of getting students into the program
Guidance	covers those student services that coordinate and support individual student growth
Student Information System	
Records and Reports	explains the process of collecting, recording, interpreting and reporting information on student progress through the EBCE program
Credentialing	concerns the process of providing records of student performance to facilitate exit or graduation from the program